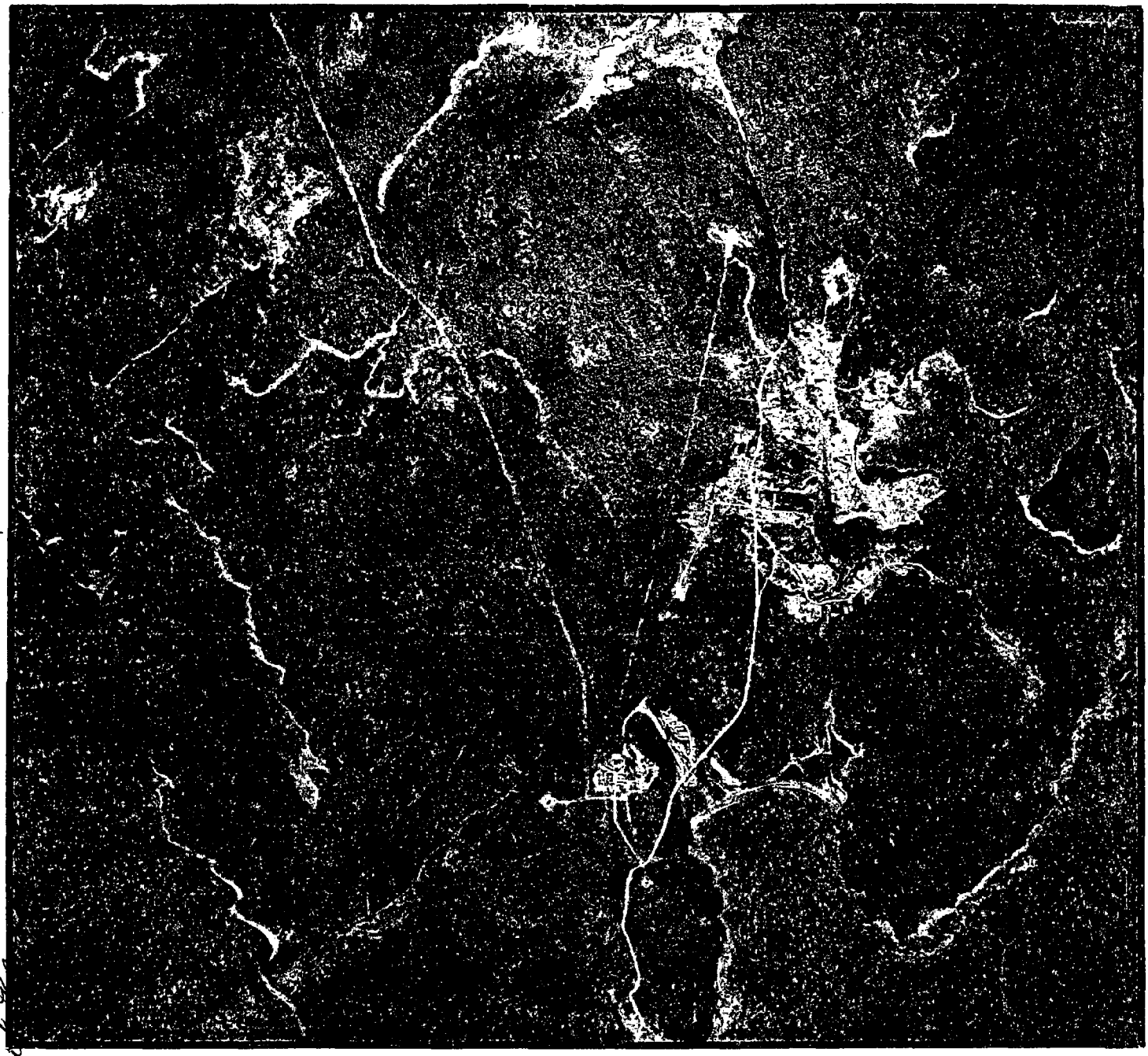

BUCKS HARBOR STUDY

MACHIASPORT, MAINE

Kimball Chase Co.
BATH, MAINE

BUCKS HARBOR STUDY

MACHIASPORT, MAINE

December 1986

Kimball Chase Company, Inc.
Bath, Maine

KIMBALL CHASE
company, inc.

Civil
Environmental
Engineers
Landscape Architecture

53 Front Street
Bath
Maine 04530

207-442-7029
443-1361

December 18, 1986

Mr. Millard Urquhart, Project Manager
Bucks Harbor, Maine 04618

Subject: Bucks Harbor Study Report 85-1248

Dear Mr. Urquhart:

We are pleased to submit our Report on the Bucks Harbor Study, in accordance with our Agreement, dated January 21, 1986.

The data upon which this study and its recommendations have been based are the most current available concerning harbor management. The participation by the Harbor Committee mad members of your community have been appreciated throughout this study. We look forward to continuing the recommended project through its remaining phases.

Thank you for selecting Kimball Chase to assist you on this project.

Very truly yours,

Kimball Chase Company, Inc.

Stephen C. DeWick, P.E.
Project Manager

SCD/lmo

Copies to the Town (25)
cc: Lanier C. Greer, WCRPC
Robert Elder, MDOT
Mike Moser, DMR
Robert G. Blakesley, SPO

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PROJECT CREDITS

This project has been sponsored by the Town of Machiasport, Maine. Administration of the Project has been under the direction of Millard Urquhart and the Harbor Committee, as well as the Planning Committee and Conservation Committee. Members of these Committees included:

Harbor Committee	Planning Committee	Conservation Committee
Millard Urquhart, Chairman	Ralph Auriemma, Chairman	Allan Larson
Harland Flynn	Muriel Wiswell	Dana Urquhart
George Flynn	Kelly Moore	Marion Davis
Dana Urquhart	Daniel Dunn	George Flynn
Barry Wood	Milton Thompson	
Arthur Totman	Richard Jordon	
Clayton Coffin	Frank Foster	
Robert Ingalls	Lanier Greer	
Loring Pettegrow		

"Financial assistance for preparation of this document was provided by a Grant from MAINE'S COASTAL PROGRAM, through funding provided by U.S. Department of Commerce, Office of Coastal Zone Management, under the Coastal Zone Management Act of 1972, as amended".

The cooperation and assistance of the Washington County Regional Planning Commission and Executive Director, Lanier Greer are appreciated.

SECTION 1

Summary and Recommendations

Summary

The Bucks Harbor study has investigated the history and existing conditions at Bucks Harbor, located in Machiasport, Maine. The study has addressed and evaluated several options for the future development of Bucks Harbor. One of the key factors recognized by this report is the change in marine activity from the Machiasport piers on the Machias River, which served the logging industry, to Bucks Harbor which currently serves as the center of fishing activity.

The study discusses the revitalization and development plan needed, based upon the needs and characteristics of Bucks Harbor.

Also included in the report is a harbor management plan, based upon the harbor ordinance adopted in 1985 by the Town of Machiasport.

Since most of the recommended facilities impact on the Waterfront and intertidal zones, the required permits from state and federal agencies have been addressed, particularly as they relate to environmental considerations. Also included has been a preliminary assessment of the environmental impacts associated with the recommended projects during construction and continued operation.

Because of the harbor configuration, and the impact of southerly winds and wave action, investigations have been made into the need for a breakwater and the type of breakwater best suited for Bucks Harbor.

Figure 1 shows the location of Bucks Harbor on the Washington County Map.

Recommendations

Based upon the findings of this report, the following recommendations are made:

1. The Town construct a public and commercial fishing pier as described by Section 6 of this report.

2. The Town authorize $37,100 for soundings, borings and the design of the proposed pier.

3. The Town seek grant assistance for the design services needed for the proposed pier.

4. The Town apply to the Maine Department of Transportation for construction funds for the proposed pier.

5. The Town install municipally owned and maintained channel markers in Bucks Harbor.

6. The Town continue with a program to eliminate pole moorings and adopt the Mooring Plan as part of the Harbor Ordinance.

7. The Town amend the existing Harbor Ordinance as described on page 17, Section 3.

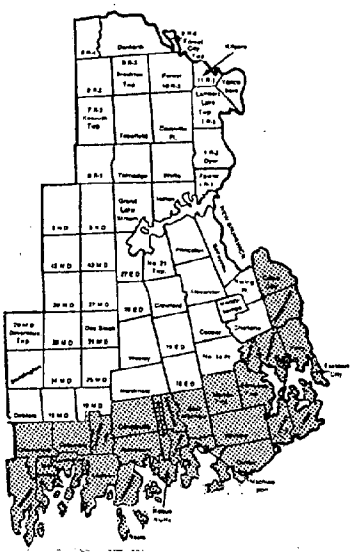
8. The Town install three (3) mooring as the first step to encourage pleasure boat activities.

9. The Town undertake additional studies and actions to:

    - Complete town tax maps and contour maps along the waterfront.
    - Improve roads to the waterfront area.
    - Expand the dredged anchorage.
    - Construct a breakwater.
    - Strengthen planning requirements to control waterfront development.

10. The Town assign harbor and waterfront duties to the Harbor Committee.

WASHINGTON COUNTY MAP



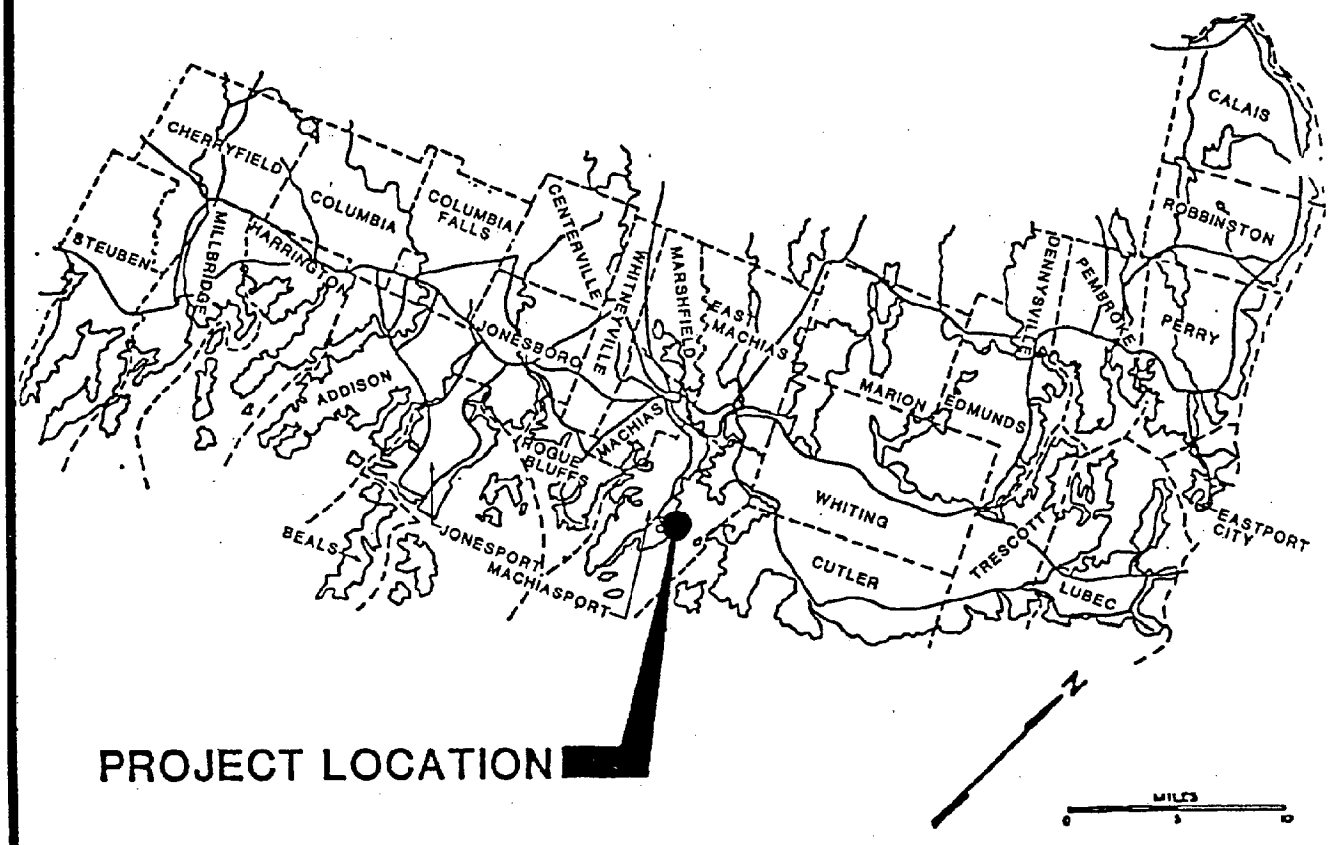


FIGURE 1

KIMBALL CHASE

SECTION 2
Introduction

Background

Bucks Harbor is located on the eastern side of the Machiasport Shoreline. The Harbor is relatively shallow according to navigational charts and has a southeast exposure. The Harbor serves primarily as a port for fishing boats. Figure 2 shows Bucks Harbor relative to Cutler, which coordinated its Harbor Study with that of Bucks Harbor. The Town's fishing fleet has increased from five (5) boats in 1960 to sixty (60) boats in 1985. The number of jobs provided by fishing has increased from fifteen (15) to two hundred (200).

As part of the Bucks Harbor Study, background information was reviewed which included the following:

1. Shoreland Zoning Ordinance, 1974
2. Pier Study, 1979
3. Building Permit Ordinance
4. Shellfish Conservation Ordinance, 1985
5. Harbor Management Ordinance, 1985

Purpose

The purpose of the Bucks Harbor Study is to evaluate past trends and uses in order to relate them to future needs. Specifically, the Town of Machiasport wishes to expand commercial fishing possibilities, particularly as they relate to a Town Pier. A Town Pier will allow:

1. Additional pier facilities which are needed, since the fishing fleet exceeds berthing at the two piers which exist in Bucks Harbor.

2. Repairing of boats during heavy weather conditions which currently cannot take place. This will especially be true if a breakwater facility is incorporated into the plan.

3. Possibility to increase groundfish potential on at least a supplemental basis.

4. The ability to accommodate cruising pleasure boats.

The following report presents the results of the Bucks Harbor Study.

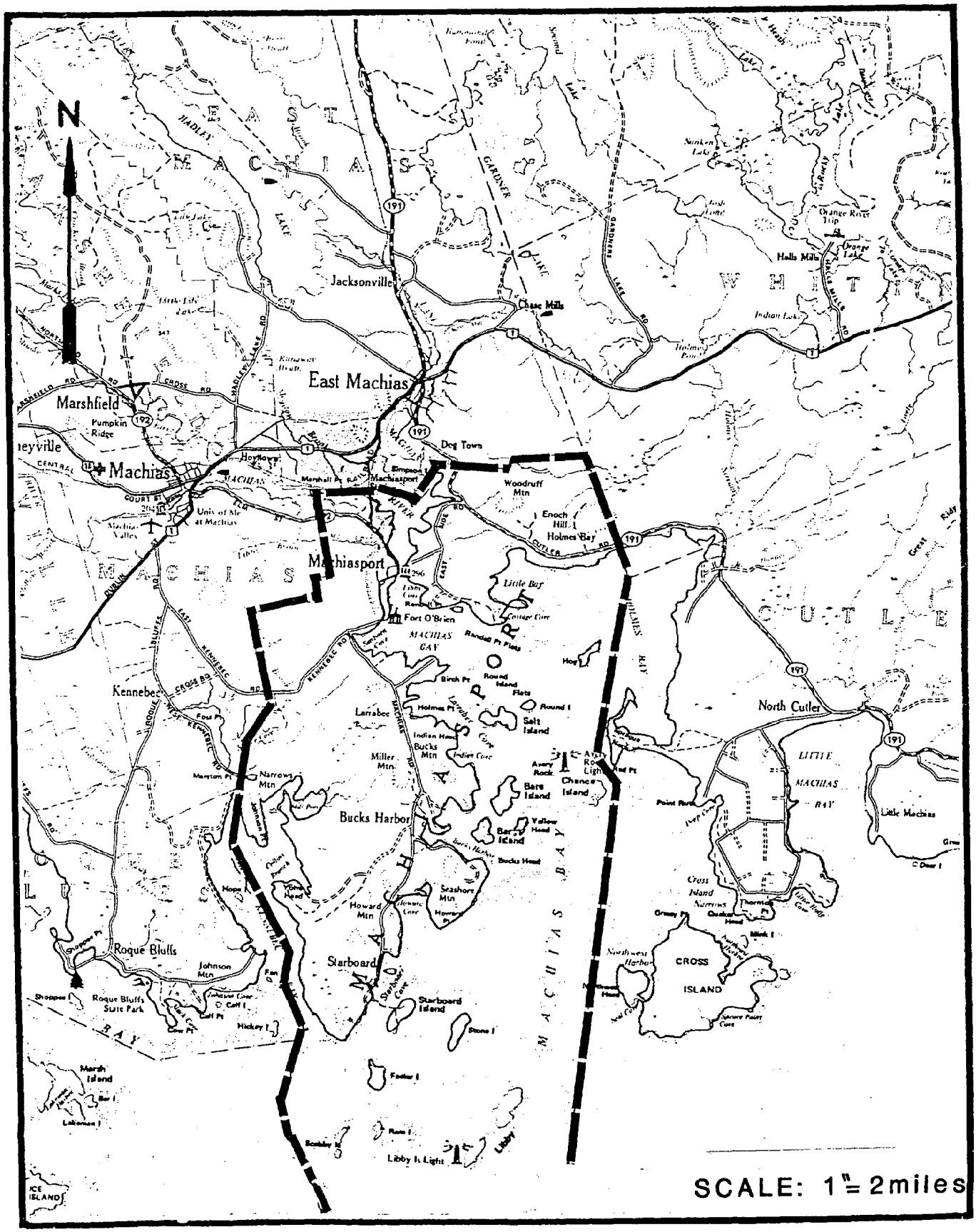


FIGURE 2
AREA MAP

KIMBALL CHASE
company, inc.

SECTION 3
Revitalization and Development Plan

Plan Objectives

The objectives of the Revitalization and Development Plan are geared toward the development of a new public and commercial pier to augment the two (2) piers which currently exist in Bucks Harbor. Objectives of the Plan include:

1. Recognition of landside facilities needed to support Harbor activities.

2. A list of activities desired for the waterfront area.

3. A list of activities which should be excluded from the waterfront area.

4. Expanding the duties of the Harbor Committee and changing the name to the Harbor and Waterfront Committee to develop and administer the long range goals of the area.

As stated by previous reports, the Town of Machiasport has a long history of shipping and marine related activities. The initial center of activity was on the Machias River near the Town Hall and was associated with the logging industry which existed in the 1800's and early 1900's. This area also supported several sardine packing plants. With the subsequent decline in long-log harvesting and a change to pulp wood cutting shipped by rail and truck, a decrease in the activity at this location ensued. This area of Town was a focal point of the 1979 Pier Study which recommended a pier or an abutment type facility. Currently this area is used to supply herring to the packing plant and to launch boats for clam diggers which dig the Machias Bay flats. Some recreational use of the boat launching ramp is also reported.

As marine activity declined on the Machias River, an increase in fishing activity took place in Bucks Harbor which is the Town's most sheltered anchorage closest to the fishing grounds. Bucks Harbor has experienced a steady increase in the number of boats and fisherman using the Harbor, but has not enjoyed the level of activity which took place up river at Machiasport.

Harbor Vicinity

Bucks Harbor is located on the eastern shore of the Town's coastline. As shown by Figure 2, the Town of Machiasport covers approximately 21.7 square miles and is located in the southeast portion of Washington County. Machiasport lies south of the Town of Machias and at the mouth of the Machias River, one of Washington County's larger watersheds.

A. History

Bucks Harbor for many years has served as the port for fisherman living in Machiasport. Little development of the Harbor took place for many years and as late as 1960 supported a fleet of only five (5) boats. Bucks Harbor has been noted for the Air Force communication installation which operated as many as six (6) radar domes. All but two (2) domes have been removed. The last two (2) domes are now operated by the Federal Aviation Administration. The remaining installation has recently been converted by the State of Maine into the Downeast Correctional Facility.

B. Physical Description

The general vicinity of Bucks Harbor begins near the "Bucks Harbor Shopping Mall" at the intersection of Route 92 and the Bucks Neck Road. It continues along Route 92 to a point just south of the intersection of Route 92 and Pettigrow Point Road. The Village of Bucks Harbor is comprised of approximately seventy-five (75) homes and summer residences, a post office, one grocery store (Bucks Harbor Shopping Mall), and the Clam Factory.

Two piers exist in Bucks Harbor. The first, Bucks Harbor Lobstermen's Cooperative of approximately 2,800 square feet is situated to the north. The second, Urquhart's Wharf (currently owned by Blaine R. West), is approximately 4,100 square feet and is located to the south. This pier also provides a lobster pound which is being upgraded to hold 40,000 pounds of lobster. Near the Urquhart Wharf is a seasonal restaurant named "Fish or Cut Bait", which specializes in seafood and is open when weather permits, since it is an outdoor restaurant.

As shown on the navigational chart, a majority of Bucks Harbor is dredged to eight (8) feet at mean low water. Most of the shoreline from Bucks Head to Bucks Neck is comprised of steep slopes and ledge outcrops. A pebble beach area does exist just south of Urquhart's Wharf. The creek area which leads to the inner Harbor also has pebble type beaches where boats can be grounded for maintenance and repairs. Other areas of the inner harbor drain to mudflats at low tide.

As the area currently exists, there is not an integration of waterfront activities with the residential center of the community. Both the Bucks Harbor Neck Road and Pettigrow Point Road are unpaved as they approach the location of fishing activity.

C. Local Points of Interest

The Town of Machiasport contains many points of interest from historical and environmental viewpoints. These include the following:

1. The Gates House - The Gates House is located on Route 92, near the Machiasport Town Hall and just south of the Sardine Packing Company. The Gates House serves as the headquarters for the Machiasport Historical Society and is located next to the Old Miller Store. Nearby is the Town's public landing site.

2. Fort O'Brien - Fort O'Brien is located just south of the Gates House on Route 92. Originally named Fort Gates, this is the site of the first naval battle during the Revolutionary War. The British schooner Margaretta was overpowered by the American Sloop Unity.

3. Starboard - Starboard is the southern most village in the Town of Machiasport, located at the end of Route 92. Nearby is the populated Starboard Island which must be reached at low tide, since it is not served by either a bridge or ferry.

4. Jasper Beach - Jasper Beach is located south of Bucks Harbor on Route 92. The beach is comprised of red, brown and green Jasper pebbles and rocks which have been tumbled by tidal water action to a smooth polished finish. The beach has been preserved due to the effort of the Town and its Conservation Committee. The beach has recently been the subject of an article in Downeast Magazine, July 1986. Although Maine has several pebble beaches, Jasper Beach is unique in that it has a tidal inlet at its eastern end which also forms a marsh pond beyond it. There is only one other similar beach in the State of Maine. Due to this feature, the area qualified for protection under the Federal "Estuarine Sanctuary Program".

Waterfront Areas and Facilities

Figure 4 shows the waterfront area surrounding Bucks Harbor. The Harbor area is bounded by Bar Island, Bucks Head and Bucks Neck. An eight (8) foot anchorage is maintained within Bucks Harbor by

the U.S. Army Corps of Engineers (See Appendix B). This area was dredged in 1970 with the dredge spoils being dumped further out. Shown on Figure 5 are the present Harbor activities which include the Bucks Harbor Fisherman's Co-op, as well as Urquhart's Wharf. The Town of Machiasport was in the process of preparing tax maps during this study,therefore, property lines which are shown are approximate.

Economic Development and Marketing

The economic development of Bucks Harbor will depend upon two (2) deciding issues. First, and most importantly, is the decision by the community on whether they wish to maintain the existing character of the Village, while improving the facilities needed for their commercial fisherman. Second, does the Town wish to integrate recreational and other types of activities with commercial fishing?

A. Growth Pattern

An evaluation of the past population trends for the Town of Machiasport has been made and future projections to the year 2020 completed. Figure 3 illustrates the increase in population expected which should exceed 1,400 by the year 2010. This will represent a 28% increase in population compared to a 47% increase projected for the number of boats using the Harbor.

Physical barriers affecting the development of Bucks Harbor include the capacity of the Harbor to hold more boats and the creek into the inner Harbor which divides the waterfront into north and south sections. The bridging of the inlet to the inner Harbor with a causeway or bridge does not seem possible from the standpoint of cost and the potential restriction to boats wanting to use the inner Harbor for maintenance and repairs. The creek acts to separate fishing and support activities on the north and south halves of Bucks Harbor.

B. Potential Activities

Potential activities for the future may include commercial activities involving groundfish on at least a supplemental basis and activities providing services to tourists traveling to the Maritime Provinces and Acadia National Park.

During recent years, several studies and surveys have been conducted of the Town, which indicated that waterfront activities should be concentrated near Bucks Harbor rather than upriver near the

Machiasport Packing and Canning Plant.

As with many coastal communities, the key issues to be addressed is parking. Parking needs are directly related to future activities involving fishing, tour boats and pleasure craft. This is especially true in Bucks Harbor where many of the ideal pier sites are located near steep hillsides with limited land available for parking. It may be necessary to locate parking facilities at some distance from the actual Town Pier.

The above issues are discussed in detail below:

1) Tour Boat - Tour and excursion boat activity has experienced recent and rapid growth along the coast of Maine. Many of these trips are to view Atlantic Puffins and/or whales. The nearest Puffin colony is on Machias Seal Island. The Canadian Government limits visitors to twenty-five (25) persons daily. Only twelve (12) are allowed from the United States. Whale watching and scenic excursions appear to hold the greatest promise for Bucks Harbor.

   Discussions with tour boat operators along the Maine coast indicated the need for basic facilities and nearby support establishments. These include the following:

   - Dockage for all stages of tide.
   - Five to eight (5-8) feet of depth at low tide, next to the dock.
   - Calm waters most of the time in the vicinity of the dock.
   - Electrical power of 110 V for small boats and 440 volts for large boats.
   - Floats and a ramp leading to a pier or land.
   - Ticket booth.
   - Adequate parking.
   - Maximum visibility to customers.
   - A class "A" restaurant near or within sight of the dock.

   With an increase in tourism to the Washington County area, and the increase in environmental concerns, it is felt that the need for a tour boat will be realized by the year 2000. A tour boat could be used for whale watching, sight seeing and/or day trips to Machias Seal Island. As estimated in Table 5, a tour boat

should have an economic return to the area of up to $105,000 per year.

2) Pleasure Boats - The bible of cruising pleasure boat owners is A Cruising Guide To The New England Coast. The book was first published in 1938 by Robert F. Duncan. Subsequent updates were made in 1946, 1952, 1955, 1961, 1967, 1972, 1978, 1979 and 1983. The book is currently authored by Roger F. Duncan of East Boothbay, Maine and John P. Ware. Bucks Harbor, Maine (13326 304) is discussed in Part 2 of the publication in Chapter XII, "Schoodic Point to West Quoddy Head". Highlights of the book's discussion on Bucks Harbor indicate it to be a protected harbor of scenic beauty, but offering little in the way of cruising accommodations.

Accommodations and facilities which should be provided if Bucks Harbor is to truly serve cruising pleasure boats include the following:

- Good supply of high quality drinking water.
- Block ice.
- Showers.
- Laundromat.
- Gasoline and diesel fuels.
- Marine supplies and charts.
- Six (6) guest moorings.

Marine supplies and charts are available at Pettegrow's Boat Yard in Starboard. The yard has a very complete store, a marine railway (45 foot capability) and does perform repairs. Approximately fifty (50) boats are stored each winter at Pettegrow's.

3) Groundfish - According to Department of Marine Resources (DMR) records, 80% of all groundfish in the State of Maine are landed in Cumberland and Knox Counties, generally south of Rockland, Maine. Some of the hurdles to be overcome if Washington County is to serve the groundfish market will include the following:

- Distance from fresh fish distribution centers.
- The reluctance to accept frozen fish into the groundfish market.

- The possibility of importing Canadian whole fish to supplement fluctuations in local fish.
- Fluctuations in groundfish landings due to the weather conditions.

DMR did indicate that groundfish is being successfully landed in Stuben and the newly opened Passamaquoddy Fillet Plant. The success of both operations should be monitored by the Harbor Committee. Additionally, the Portland Fish Pier will be a pilot project for the use of Canadian whole fish to supplement local groundfish.

Groundfish landed in Bucks Harbor could also be used to supplement local groundfish at the Portland Fish Pier. Groundfish could be temporarily stored in a refrigeration truck until an adequate load could be delivered to the marketplace. In order to be ultimately successful, an on-site refrigeration system would probably be necessary. The success of groundfishing in Bucks Harbor would rely on a commitment by fishermen because fish markets require a steady source of product.

The Boothbay Harbor Fishermen's Cooperative has been experiencing some problems which relate to management and lack of commitment by local fishermen, small catches associated with short trips and the need to combine different kinds of fish in order to obtain the volume needed. The Boothbay Harbor situation will also need to be monitored by the Harbor Committee.

Groundfishing can only be looked upon as a source of income for a limited number of fishermen or as a source of supplemental income for other fishermen due to limited natural resources. The limited natural resources can be attributed to the recent boundary dispute with Canada. During the boundary dispute, very lucrative fishing waters were taken away from the American fishermen. This action caused large, sophisticated American fishing vessels to fish in a smaller coastal area thus depleting these waters of groundfish at a faster rate than would have occurred before the boundary dispute.

With the expansion of the Bucks Harbor Fishermans Co-op pier, Bucks Harbor would be able to increase its share of the commercial fisheries landed in Washington County. The commercial fisheries landings for Washington County, as reported by the Resource Statistics Division of the National Marine Fishery's Service, are shown in Table 1. The landing report also indicates the dollars associated with each category. While finfish accounts for less than 10% of the total dollars realized, Table 2 shows a comparison of fish to shellfish as reported through December 1985. The addition of groundfishing and the expansion of the current fishing industry could create new jobs and add needed income to the area.

Table 1

NATIONAL MARINE FISHERYS SERVICE — DATE OF RUN 2/28/86

RESOURCE STATISTICS DIVISION — PAGE 12

PRELIMINARY COMMERCIAL FISHERY LANDINGS BY REGION, STATE AND COUNTY (CUM-RUN 3)

	1982 THRU DEC		1983 THRU DEC		1984 THRU Dec		1985 THRU Dec	
	POUNDS	DOLLARS	POUNDS	DOLLARS	POUNDS	DOLLARS	POUNDS	DOLLARS
New England Region								
Maine								
Washington								
Alewives	57,050	4,475	36,400	2,800	66,500	5,100	67,340	4,810
Anglerfish	23,882	14,544	20,473	11,844	15,166	11,061	17,483	13,409
Bluefish,Unc	44	8	-	-	-	-	10	1
Cod,At,Lg	21,664	7,041	32,490	10,377	68,237	15,181	80,298	24,503
Cod,At,Mkt	239,599	62,058	476,064	121,094	428,835	112,870	272,913	87,092
Cod,At,Scrod	3,525	956	2,378	531	7,839	2,502	12,848	4,314
Cusk	2,359	404	1,951	372	2,142	478	4,521	817
Eels, Common	21,516	18,179	8,400	6,300	-	-	3,320	2,656
Flounder,At,Blackback,Lg	52,118	22,284	31,977	13,817	11,022	5,328	6,537	3,786
Flounder,At,Blackback,Md	10,890	3,517	15,876	4,842	-	-	653	404
Flounder,At,Blackback,Sm	170,472	72,034	108,906	56,408	2,890	922	1,738	779
Flounder,At,Dab,Sea,Lg	64,923	21,527	39,348	12,033	37,779	25,253	27,461	23,698
Flounder,At,Dab,Sea,Sm	77,912	50,599	74,853	59,083	16,826	6,054	13,762	5,955
Flounder,At,Dab,Sea,Unc	15,413	7,383	21,156	10,721	-	-	1,355	474
Flounder,At,Dab,Sea,Md	2,317	993	4,069	1,611	-	-	4,696	3,177
Flounder,At,Gray Sole,Lg	6,698	3,980	10,883	6,081	52,060	47,940	25,897	30,932
Flounder,At,Gray Sole,Sm	-	-	482	232	20,877	10,053	19,304	9,581
Flounder,At,Gray Sole,Med	338,539	46,889	291,881	37,549	-	-	10,075	7,956
Flounder,At,Yellowtail,Lg	4,042	6,142	7,911	16,895	795	437	-	-
Haddock,Lg	12,925,710	733,091	4,750,200	263,758	3,165	2,587	2,168	1,744
Hake,At,White,Unc	530	201	-	-	391,320	48,696	336,999	46,285
Halibut,At & Pa	3,579	760	4,289	1,121	5,735	9,890	2,699	4,892
Herring,At,Sea	237,652	39,815	556,150	76,873	8,756,910	477,901	7,656,346	466,331
Mackerel,At	5,110	1,062	13,915	4,583	-	-	266	66
Ocean Perch,At	375	93	1,081	69	2,655	780	6,115	2,267
Pollock,At & Pa,Unc	107	22	210	87	300,488	44,823	409,124	64,730
Sharks,Unc	72,245	8,393	802	80	9,741	3,276	11,566	6,534
Suckers	30,147	4,174	20,785	3,395	-	-	1,100	610
Wolffish,At					9,800	1,748	9,997	1,803
TOTAL FISH	14,388,418	1,130,624	6,532,930	722,556	10,210,782	832,880	9,006,591	819,606

Table 2
Comparison of Fish and Shellfish
Washington County Landings

Year	Fish		ShellFish*	
	Pounds	Dollars	Pounds	Dollars
1982	14,388,418	1,130,624	5,772,410	9,908,229
1983	6,532,920	772,556	5,953,000	12,217,510
1984	10,210,782	832,880	6,095,348	15,693,703
1985	9,006,591	819,606	4,953,019	12,697,721

* These figures do not include quahogs, according to the National Marine Fisheries Service.

ECONOMIC DATA AND PROJECTIONS

Based upon information provided by the Town of Machiasport, the current value of products from the commercial fishing industry are as follows:

	Volume	Pounds	Dollars
Quahogs	100,000 Bu./yr.	6,000,000*	$ 2,500,000
Lobsters	250,000 lbs./yr.	250,000	500,000
Clams	50,000 Bu./yr.	3,000,000*	2,000,000
Total:		9,250,000	$ 5,000,000

* Based upon 60 lbs. per bushel.

The figures for Bucks Harbor can be compared with those in Table 3 for Washington County and in Table 4 for Washington County, Maine and the northeast. These figures show Bucks Harbor accounts for 39% of Washington County's shellfish.

Future sources of revenue, not currently realized, will include tour boats and docking facilities for pleasure boats. These with other potential sources are shown in Table 5.

Table 3
Shellfish Landings by Type
Washington County
(All Figures in Millions)

	Lobsters		Clams		Mussels		Periwinkles		Scallops	
Year	Lbs.	Dollars	Lbs.	Dollars	Lbs.	Dollars	Lbs.	Dollars	Lbs.	Dollars
1982	2.3	5.2	1.6	2.5	1.1	0.3	.02	.04	0.2	0.8
1983	2.1	5.0	1.5	2.7	1.3	0.4	.04	.07	0.5	2.5
1984	1.8	4.5	2.4	5.3	0.6	0.2	.02	.03	0.7	4.5
1985	1.7	3.8	2.1	5.2	0.2	0.1	.01	.02	.04	2.4

Table 4
Shellfish Landings
(All Figures in Millions)

	Northeast		Maine		Washington County	
Year	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars
1958	-	21.3	-	8.3	-	-
1960	-	27.7	-	13.4	-	-
1965	-	35.9	-	16.9	-	-
1982	-	-	-	-	5.77	9.9
1983	-	-	-	76.6	5.95	12.2
1984	-	-	-	78.3	6.10	15.7
1985	-	-	-	-	4.95	12.7

Table 5
Economic Return From Harbor Area

		1986		2000	
Activity	Unit Cost	Units	Annual Return	Units	Annual Return
Moorings	$5/yr.	60	$ 300	88	$ 440
Slips	$20/ft./yr.	0	0	600	$ 12,000
Fuel					
Gas	$0.95/gal.	70,000	$66,500	100,000	$ 95,000
Diesel	$0.79/gal.	65,000	$51,400	95,000	$ 75,100
Repairs					
Power	$500/yr.	3	$ 1,500	5	$ 2,500
Sail	$350/yr.	6	$ 2,100	8	$ 2,800
Commercial	$1,000/yr.	51	$51,000	75	$ 75,000
Parts & Material					
Power	$1,500/yr.	3	$ 4,500	5	$ 7,500
Sail	$1,000/yr.	6	$ 6,000	8	$ 8,000
Commercial	$1,500/yr.	51	$76,500	75	$112,500
Secondary Return from Boating/ Cruising	$15/day/per.	0	0	900	$ 13,500
Excursion Boats	$35/person	0	0	3,000	$105,000

SURVEY OF SITES FOR PUBLIC USE

There are three (3) obvious sites available for public use at Bucks Harbor. These are:

1. Urquhart's Pier and Lobster Pound Area.
2. Bucks Harbor Fishermen's Co-op Pier on the northwestern side of the Harbor.
3. Malloy Property North of Urquhart's Pier.

Details surrounding each site are discussed below.

Urquhart's Pier is located at the base of a very steep slope and offers little space for parking. This fact, coupled with the recent sale of the pier, makes this site less than desirable.

The Bucks Harbor Co-op pier is privately owned. In order to qualify for State aid, the pier would have to be given to the Town, and then leased back to the Co-op or an easement given to the Town.

The Malloy property adjacent to the northern boundary of Urquhart's pier is an ideal pier site. It offers space for parking, has a gentle slope, and is centrally located to the mooring area. This site is privately owned and will not be sold.

MARKETING OF BUCKS HARBOR

The duties of the Harbor Committee of the Town of Machiasport should address both the harbor and the waterfront. The name of the committee might be revised to the Harbor and Waterfront Committee to reflect this involvement. The duties of the committee should include, but not be limited to the following:

- Review and periodic update of Harbor ordinance (See Appendix C).
- Review and periodic update of the job description for the Harbor Master.
- Preparation and distribution of informational material to commercial fishermen concerning Harbor activities. This informational material could include notices of upcoming Harbor Committee meetings and their purpose, information on dates of Department of Marine Resources hearings and other information pertinent to commercial fisherman.
- Preparation and distribution of information and material relating to recreational boating interests. This information could be a small pamphlet prepared by the Town for distribution to recreational boaters,

stating where and when they can get supplies while in Bucks Harbor.

- An updated description of the Harbor should be sent to the New England Cruising Guide, periodically, to insure current information for pleasure boaters.

- Coordination of activities with State and Federal agencies, in particular the Department of Environmental Protection, Maine Department of Transportation, Corps of Engineers, U.S. Coast Guard, and the Department of Marine Resources.

- Preparation of Tourists' Guide for Bucks Harbor and vicinity. This material should be available at Machias and information booths.

- Additional contacts should be developed with shellfish and finfish markets to the south, particularly at the Portland Fish Pier.

Recommendations for Existing Harbor Ordinance

It is recommended that the existing Harbor Management Ordinance be amended as follows:

Section III Moorings

G. The Harbor Master shall designate mooring spaces in accordance with Title 30, Sections 2 through 6, Maine Revised Statutes, as amended, and shall maintain a plot plan of the anchorage area indicating locations of moorings, size of boats, and areas to be used as waterways. A copy of this map will be kept on file at the Town Office.

H. All moorings shall be approved at least once each year by the Harbor Master. At his direction the boat or flotation owner or his agent shall make necessary repairs or replacements to all parts thereof in such time as the Harbor Master deems necessary for the safety of the craft or others adjacent to it.

I. The Harbor Master, by direction of the Board of Selectmen, may deny the placement or use of a mooring or the use of the town-owned dock or floats if in the judgment of the Harbor Master and the Board of Selectmen, the boat, float or vessels are:

1. Structurally unsafe.

2. Emanating obnoxious fumes, oils or any other substance detrimental to the safety or comfort of others, including the pollution of its waters, shores and flats.

3. Too large for dock, float or mooring area.

4. A hazard to navigation.

J. No boat, float or mooring shall be abandoned or left to disintegrate in any part of the harbor.

Section IX Public Wharves, Docks, Piers and Floats

101.1 No person shall tie up vessels or boats, of any description, to public facilities more than thirty minutes except with special permission granted by the Harbor Master.

101.2 No person shall place or deposit on public facilities any fish or lobster bait, except for immediate delivery to boats ready to receive same.

101.3 No person shall place or maintain, on public facilities, barrels, boxes, gear, traps. pots or any other equipment for a longer period than is reasonably necessary for the prompt loading or unloading of same.

Section X Penalty

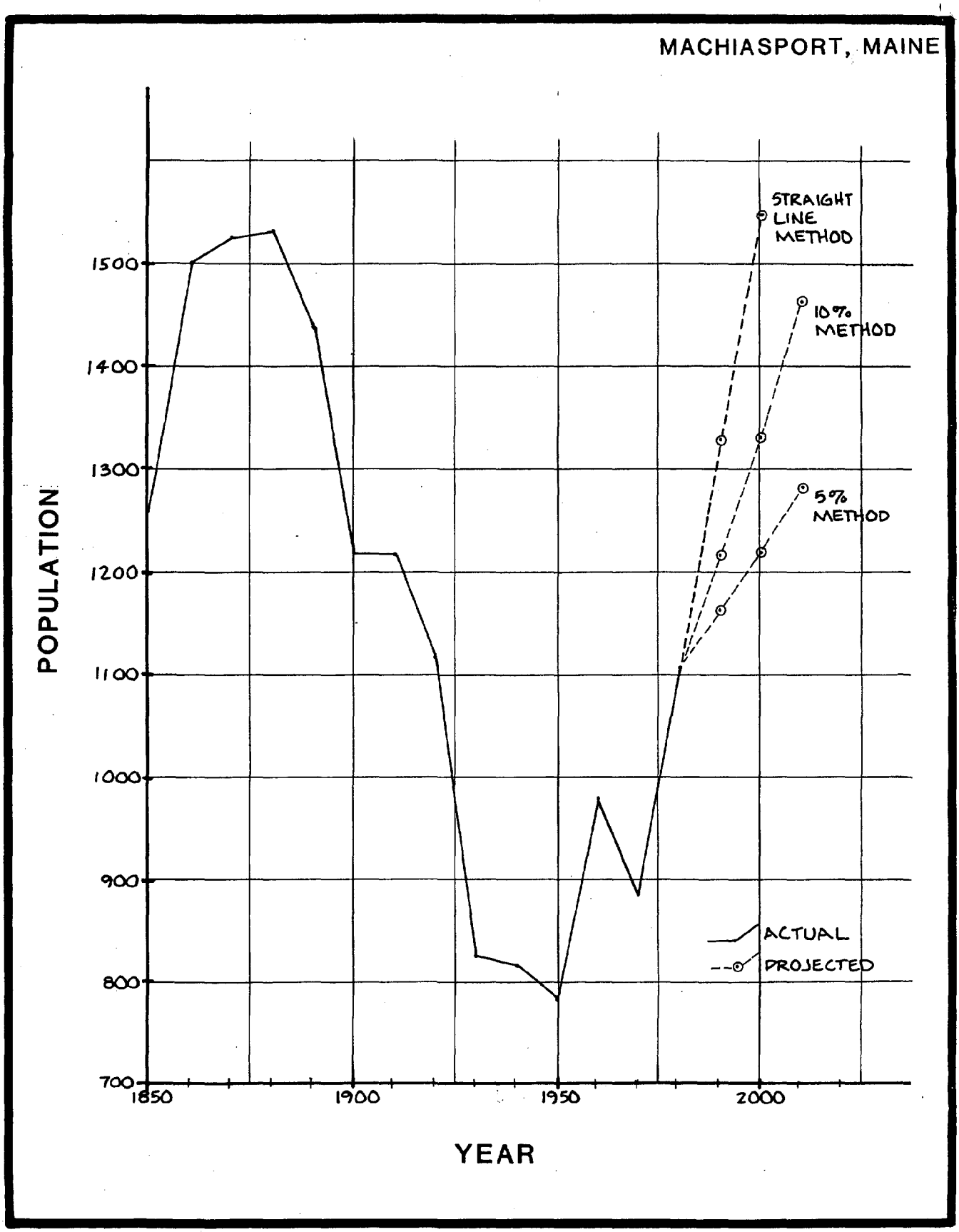
Whosoever violates any provision of the Ordinance, neglects or refuses to obey the provisions of this ordinance, shall be deemed guilty of a misdomeanor and, upon conviction shall be punished by a fine of not more than fifty dollars ($50). Each day that such violation exists shall constitute a separate offense.

FURTHER STUDIES NEEDED

The following studies and products are recommended to develop the Bucks Harbor vicinity in a manner acceptable to the Town.

- Completion of Town tax maps.
- Aerial photogrammetry in addition to tax mapping to allow preparation of contour maps.

- Road improvement studies for Buck Neck Road and Pettigrow Point Road.
- Expanded dredge study by the Corps of Engineers.
- A benefit-cost study by the Corps of Engineers for a formal breakwater.



POPULATION PROJECTIONS FIGURE 3

KIMBALL CHASE
company inc

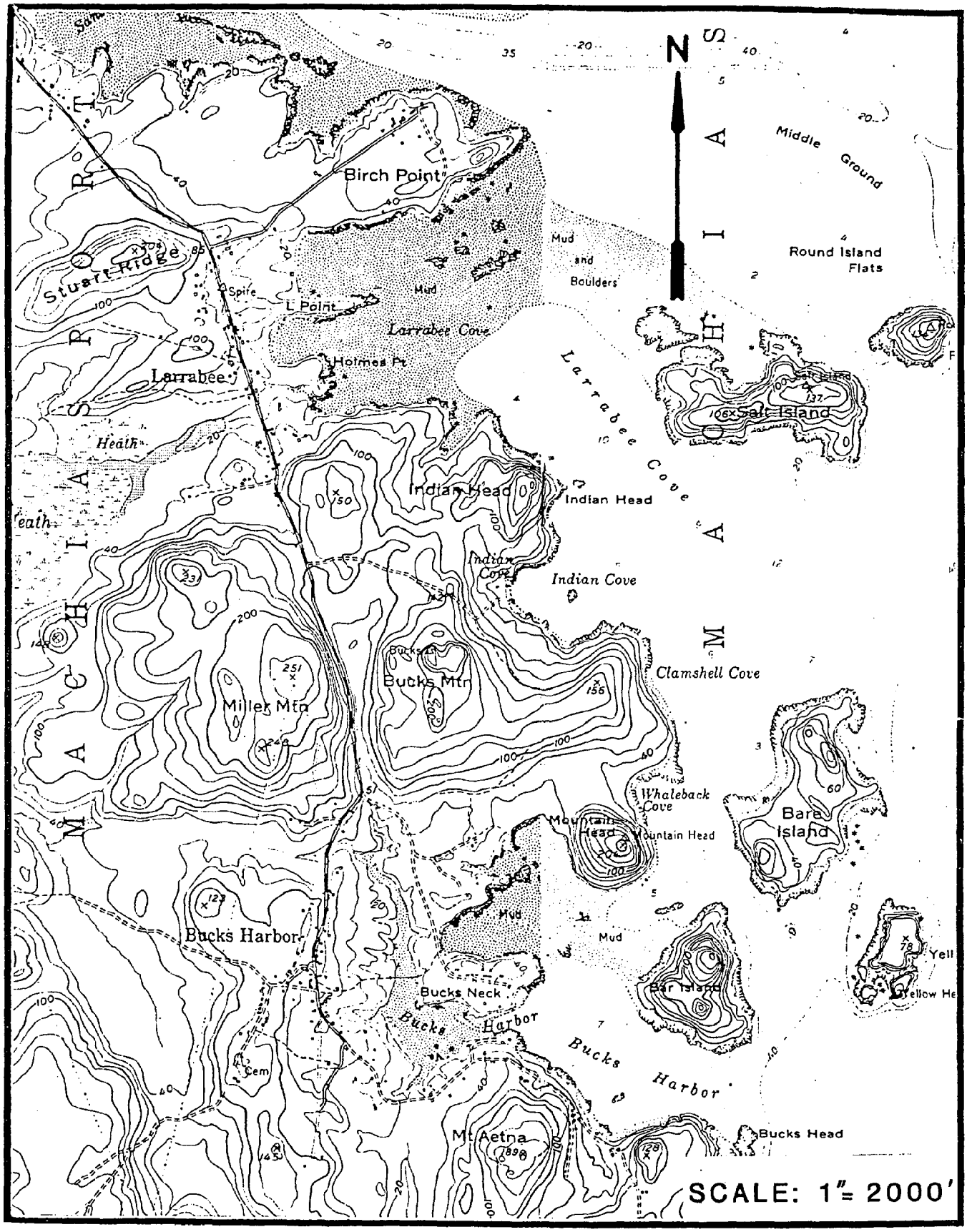
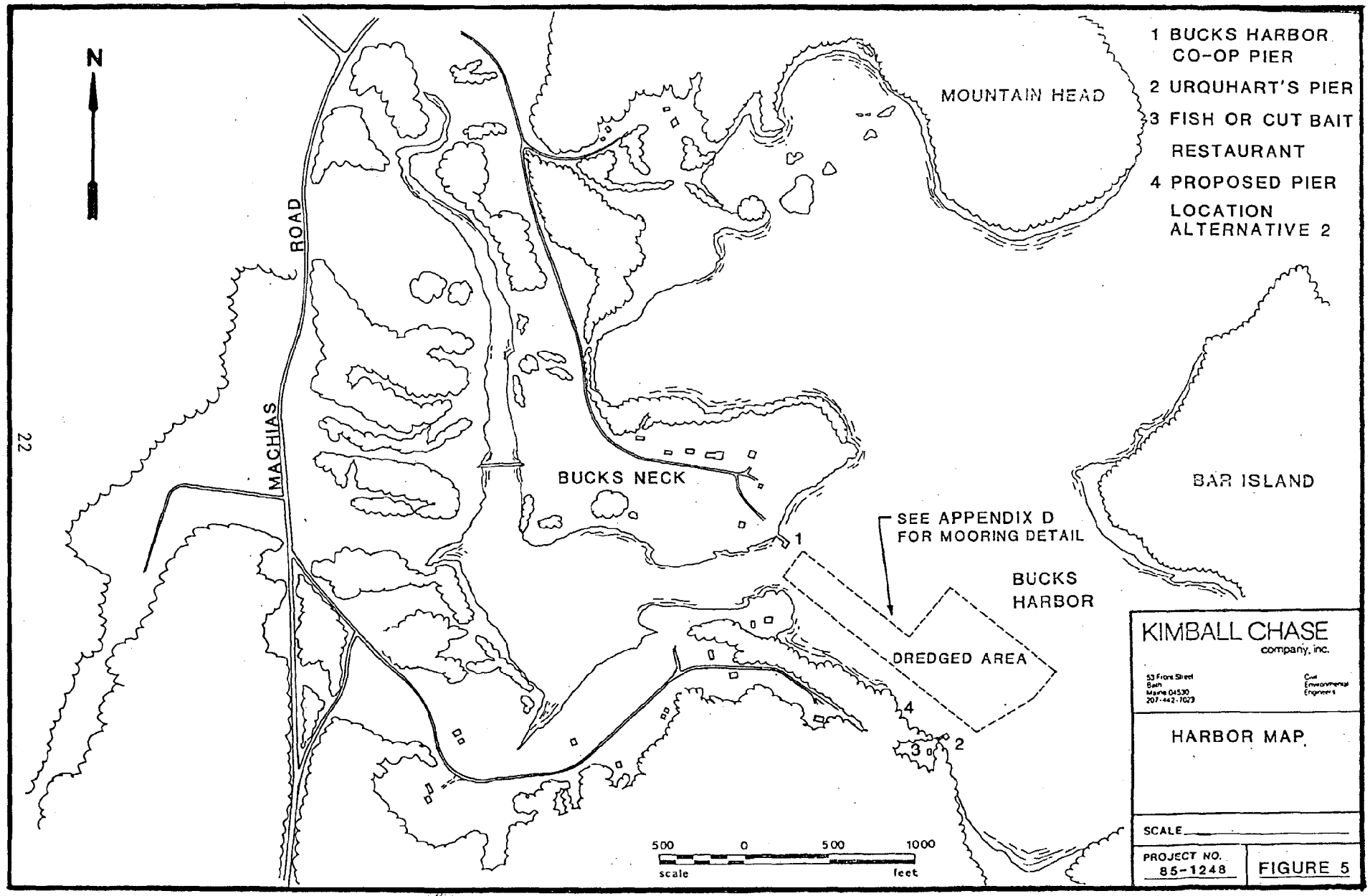


FIGURE 4

WATERFRONT AREA MAP

KIMBALL CHASE
company inc


N
1 BUCKS HARBOR CO-OP PIER
2 URQUHART'S PIER
3 FISH OR CUT BAIT RESTAURANT
4 PROPOSED PIER LOCATION ALTERNATIVE 2
MOUNTAIN HEAD
MACHIAS ROAD
BUCKS NECK
BAR ISLAND
SEE APPENDIX D FOR MOORING DETAIL
BUCKS HARBOR
DREDGED AREA
1
2
3
4
500 0 500 1000
scale feet
KIMBALL CHASE company, inc.
53 Front Street
Bath
Maine 04530
207-442-7029
Civil Environmental Engineers
HARBOR MAP
SCALE
PROJECT NO. 85-1248
FIGURE 5

SECTION 4

Harbor Management Plan

PLAN OBJECTIVES

The Harbor Management Plan will be administered by the Harbor Committee and enforced by the Harbor Master. Figure 6 shows the overall limits of Bucks Harbor with the proposed lines which outline the Harbor channel and mooring plan.

The Harbor Management Plan is similar to a Town's Comprehensive Plan. It describes the goals of how the harbor should be managed. Important goals would be:

- Clear movement of all boats in and out of the harbor.
- Adequate space for boats to maneuver and moor.
- Provide a safe harbor during storms.
- Make available the needed supplies to all boats.
- Provide for the orderly development of the harbor.
- Promote existing activities and improve them.
- Recommendation on control of future increases in the number of boats.

The harbor ordinance provides the rules and regulations by which the Management Plan is implemented. Some of the key aspects include:

- Clear and concise definitions of all terms.
- Designation of all channels and passageways.
- Designation of the anchorage.
- Adoption of a mooring plan.
- Standards for moorings.

HARBOR CAPACITY

The water area, at low tide, suitable for anchorage and channels is estimated to be 66 acres. The existing "8 foot Anchorage" measures 46 acres. If properly managed and controlled, this area will serve the needs of Machiasport for many years. In determining harbor capacity, future projections have been made for the number of boats based upon past records. The fishing fleet in Bucks Harbor has grown significantly in the past ten (10) years. This is reflected in Table 6 below.

Table 6
Boat Projections

Year	Commercial Boats	Pleasure Boats	Total
1960	-	-	5
1970	-	-	25 Est.
1980	-	-	45 Est.
1986	51	9	60
1990	58	10	68
1995	66	12	78
2000	75	13	88

HARBOR GROWTH

Currently the sixty (60) boats in the Harbor use more mooring area than the forty-six (46) acres of the "8 foot anchorage". As shown by Table 6, Bucks Harbor boats may increase 47% by the year 2000. The anchorage available with expanded dredging, 66 acres, is slightly less than the 68 acres desired for the spacing recommended by this study's mooring plan. If boat projections are reached, even with an expanded "8 foot anchorage", the harbor will reach capacity by the year 2000. Alternate methods of mooring boats such as slips and/or mooring floats will be required to realize additional harbor mooring capacity. The Harbor Committee should begin to investigate the use of alternate mooring methods now, so as to gain additional capacity within the existing "8 foot anchorage".

Careful monitoring of harbor development by the Harbor Committee will be required.

HARBOR ISSUES

Based upon a review of activities in other Maine harbors, the following specific criteria are suggested for each of the issues discussed:

A. Clearances - There shall be a minimum of ten (10) feet from any moored or docked boat, channel line, and mooring area.

B. The Harbor Committee shall maintain a mooring plan. Standards for moorings shall include the following which reflect the relationship between boat length and mooring weight. Also, each mooring shall be properly equipped with the necessary hardware, chains, buoy and pickup buoy. Figure 7 shows the existing "pole" moorings which will need to be replaced with chain moorings due to restricted space. Figure 8 shows a typical chain mooring detail.

C. Floats - All floats shall be approved for construction and location by the Harbor Committee. Maximum length of a single float shall not exceed twenty (20) feet. The maximum width shall not exceed ten (10) feet. All floats shall be equipped with proper flotation.

D. Speeds - The maximum speed within the Harbor limits shall not exceed 5 knots (6 miles per hour).

E. Fees - The following fee schedule is proposed for docking and mooring facilities in Bucks Harbor.

1.	Mooring Fees	$5.00-$10.00 per 2 years
2.	Float Registration Fees	$10.00 per year
3.	Docking Fees at Public Piers & Slips	$30.00/ft per year

MOORING PLAN

While Figure 6 shows the mooring area, proposed dredging and harbor channel in Bucks Harbor. Appendix D contains a detailed Mooring Plan with locations and bearings shown.

The layout and location of the moorings and channels may be accomplished with electronic navigation equipment available on many of the fishing boats. The Harbor Master plans to utilize the LORAN system. This system, as the name implies, is a Long Range Aid to Navigation providing transmissions from which data can be obtained with a special shipborne receiver for reference to "latticed" charts. Each pair of stations transmits synchronized radio pulses with a fixed delay between the Master and Secondary transmission. The shipborne receiver measures the "time difference" being drawn on the chart as a hyperbolic pattern of position lines. A fix is obtained by measuring the delay of a second pair providing a second position line with a suitable angle of cut in the area.

Many of the 1200 series coastal charts have LORAN Lines overprinted thereon and tables for each pair are available so that a user can layout on any chart within a range of that pair.

The LORAN A System has been phased out and replaced with the LORAN C System. The LORAN C System provides greatly increased accuracy at longer ranges with fully automatic receivers. If the receiver has previously been used in the area and a fix at a known location obtained, the time difference correlations from this fix can be applied to obtain 50' to 100' accuracy for other locations.

In conjunction with the recommended mooring plan, it is also recommended that the Town install and maintain channel markers in Bucks Harbor. In order for the Town to install channel markers, a Private Aid to Navigation form must be submitted to the U.S. Coast Guard thirty (30) days prior to installation. Both fixed and floating markers are allowed.

DREDGE AREA

In 1970 the Corps of Engineers dredged 46 acres of Bucks Harbor to create an "8 foot anchorage" (See Figure 5 and Appendix B). Spoils were disposed of at sea in a designated dumping ground. Negative impacts of this disposal, on quahogs, have been reported by local fisherman.

In order to accommodate the future increase in boats, the "8 foot anchorage" will have to be enlarged. The proposed mooring plan discussed above results in a density of 1.3 boats/acre, including quahog crates. By the year 2000 the anchorage area needed will be 68 acres. The Town should request additional dredging by the Corps as soon as possible. The amount of material to be dredged may be 219,000 cubic yards. The dredge spoils will be silty and will require dewatering over a 1-2 year period. Based upon the 1985 dredging of the Royal River in Yarmouth, Maine, the cost of dredging ($5/c.y.) may be $1,095,000. The cost of spoils disposal ($1/c.y.) may be $219,000, not including the construction of a dredge spoils area. The cost of spoils disposal is usually borne by the Town.

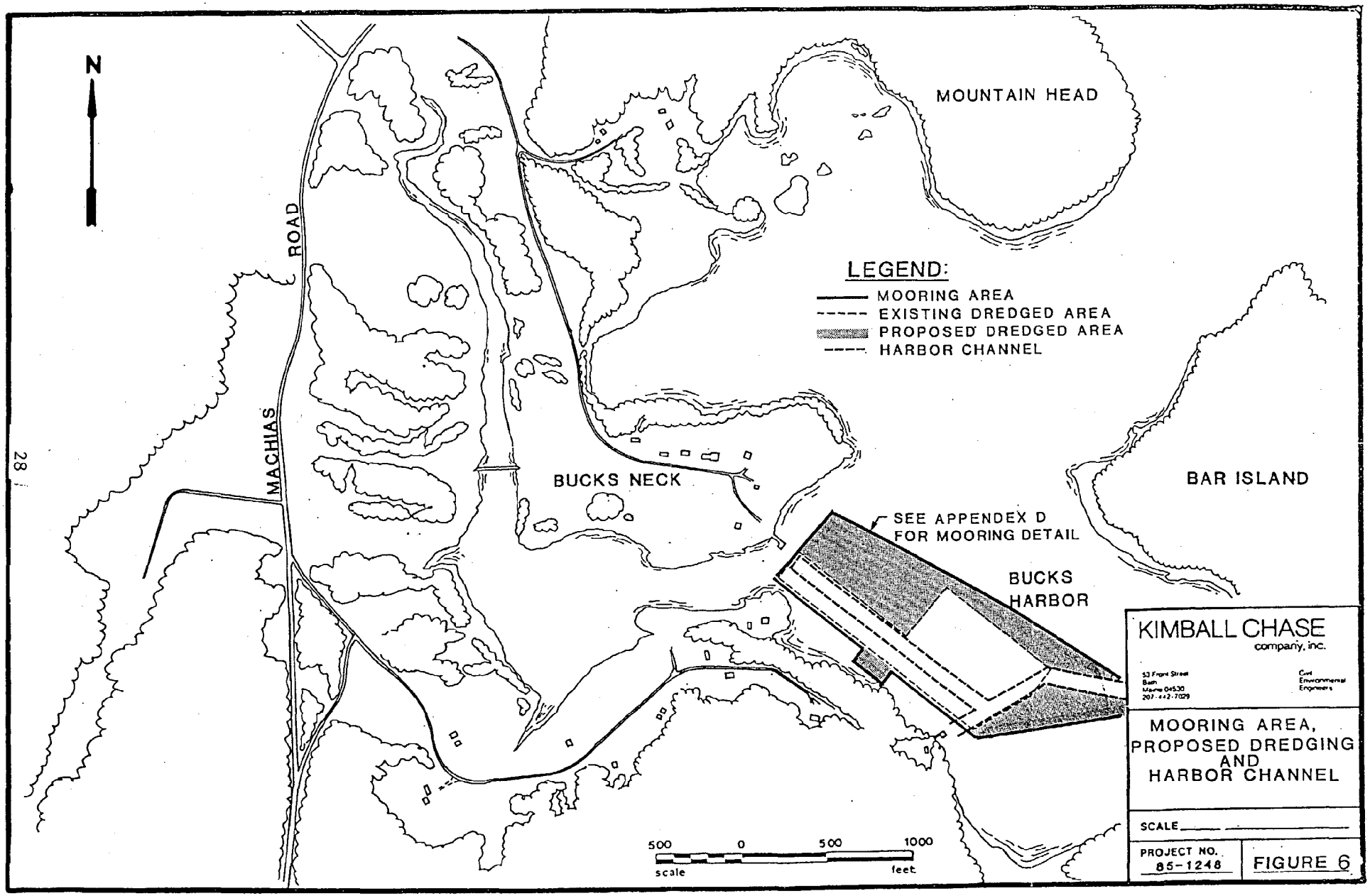
The spoils area will require a 12 foot high dike with an estimated internal area of 20 acres. A site near the inner Harbor might be suitable. DEP permits will be required for the diked area from the Land Bureau, while the Water Bureau will require a wastewater discharge license.

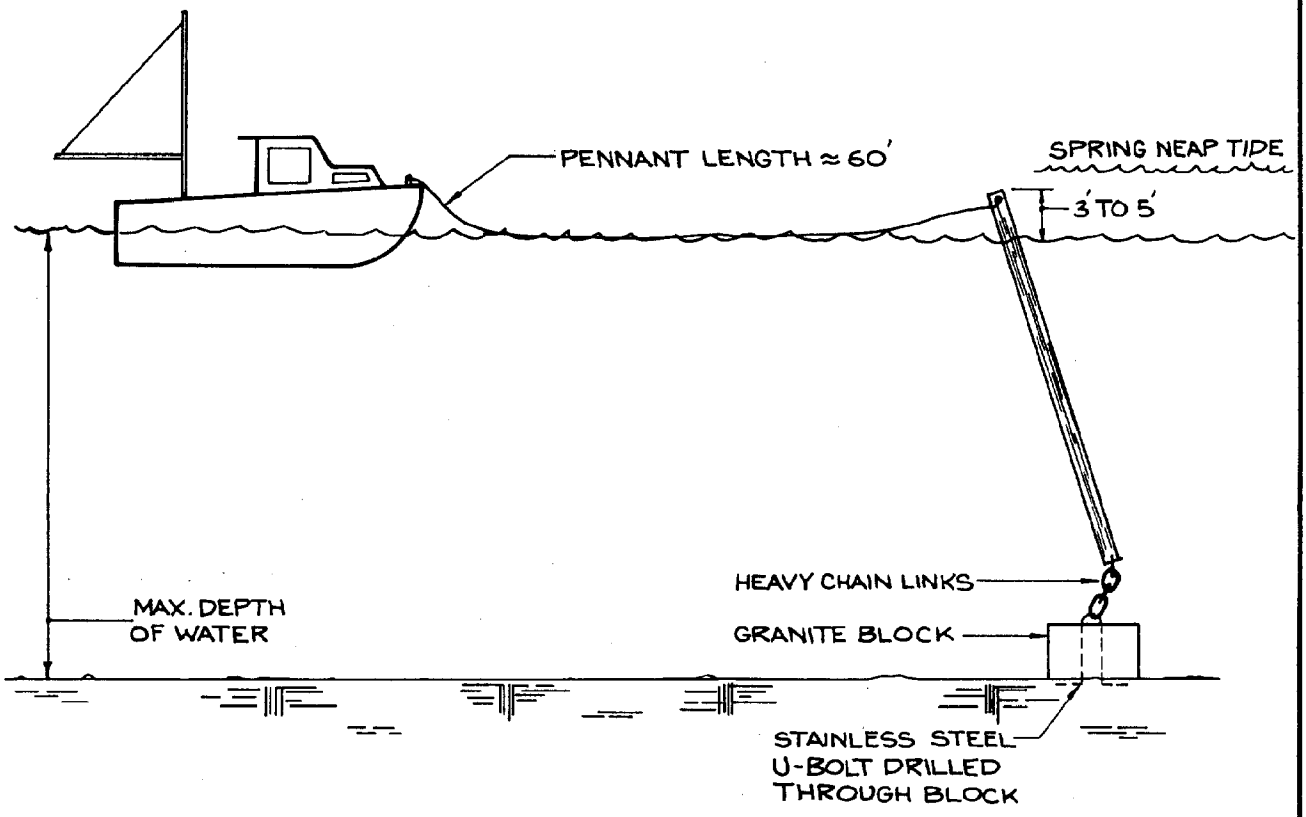
CAPITAL IMPROVEMENTS

The major capital improvement to Bucks Harbor will be a Public Pier. The ultimate facility will include a paved parking lot and access road, electricity and water on pier, channel markers, guest moorings, an expanded dredged area and a breakwater.

The following facilities are presented in the order by which they might be completed by a capital improvement program, covering the next seven (7) year period.

Year	Activity	Cost
1987	Public Pier Soundings & Preliminary Design	$ 22,000
	Channel Markers & Guest Moorings	25,000
1988	Final Design of Public Pier	20,000
	Pier Funding by MDOT	
	Environmental Permits for Public Pier	5,000
1989	Construction of Public Pier	500,000
	Breakwater Study by Corps of Engineers	
1990	Design of Spoils Area	40,000
	Environmental Permits for Spoils Area	20,000
	Breakwater Soundings & Preliminary Design	75,000
1991	Construction of Spoils Area	1,115,000
	Final Design of Breakwater	175,000
1992	Harbor Dredging	1,095,000
	Spoils Disposal	219,000
	Environmental Permits for Breakwater	30,000
	Breakwater Funding by Corps of Engineers, MDOT & Machiasport	
1993	Construction of Breakwater	10,000,000

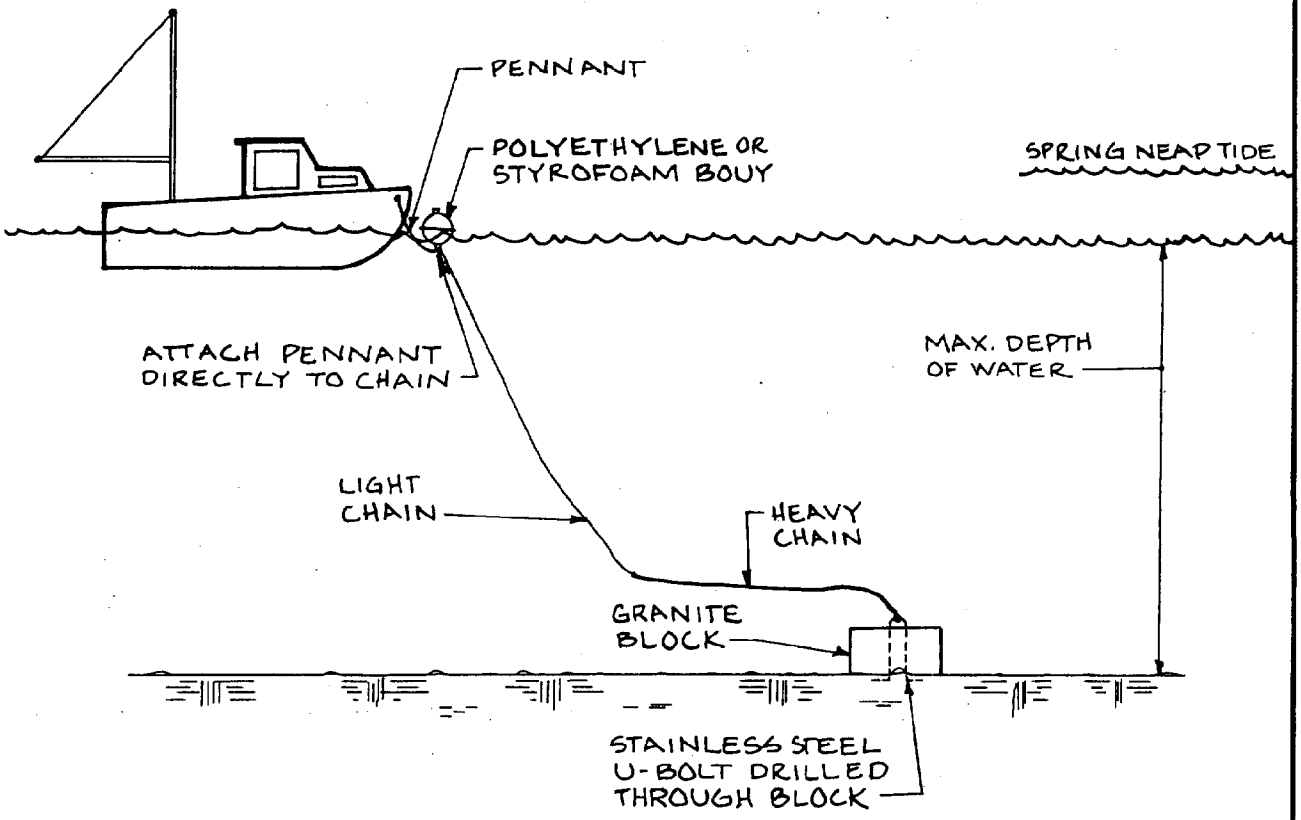

N
MOUNTAIN HEAD
ROAD
MACHIAS
BUCKS NECK
BAR ISLAND
LEGEND:
MOORING AREA
EXISTING DREDGED AREA
PROPOSED DREDGED AREA
HARBOR CHANNEL
SEE APPENDEX D
FOR MOORING DETAIL
BUCKS
HARBOR
500 0 500 1000
scale
feet
KIMBALL CHASE
company, inc.
MOORING AREA,
PROPOSED DREDGING
AND
HARBOR CHANNEL
SCALE
PROJECT NO.
85-1248
FIGURE 6



NOTE:
POLE LENGTH REQUIRED IS MAXIMUM DEPTH OF WATER PLUS 5 FEET

POLE MOORING DETAIL

KIMBALL CHASE COMPANY INC.
53 Front Street
Bath, Maine 04530
Figure 7



NOTE:
CHAIN LENGTH REQUIRED IS A 3 TO 1 SCOPE OF WATER DEPTH AT MEAN HIGH WATER; IF WATER DEPTH IS 20' THE CHAIN SHOULD BE AT LEAST 60' LONG.

MOORING DETAIL

KIMBALL CHASE COMPANY INC.
53 Front Street
Bath, Maine 04530
Figure 8

SECTION 5

ENVIRONMENTAL CONSIDERATIONS

The environmental impacts resulting from any waterfront or harbor development must be reviewed and approved by State and Federal agencies. The two primary agencies involved are the Department of Environmental Protection and U.S. Army Corps of Engineers. While both of these agencies allow maintenance of existing facilities, total replacement or construction of new facilities require extensive permits and detailed applications to obtain them.

Draft Environmental Permit Applications are contained in Appendix E.

Also involved in addressing environmental considerations will be the Bureau of Public Lands, which leases all submerged land for the State of Maine, as well as the Department of Marine Resources, which reviews all marine activities. Construction resulting in navigational impact will require U.S. Coast Guard permits.

JURISDICTIONAL LIMITS

The jurisdictional limits of the various agencies involved with addressing environmental issues can be confusing. The limits are best depicted by Figure 9. This figure shows the shoreland zoning which was State mandated to be adopted by all Maine communities within two hundred and fifty feet of normal high water. In this zone local ordinances apply as well as DEP's Bureau of Land Quality Control requirements. From normal high water and beyond the DEP's Wetlands Alteration Law is in effect. Below normal low water the Bureau of Public Land's administers the Submerged Lands Regulations.

The Corps of Engineers jurisdiction begins at annual high water and extends beyond mean low water to the 3-mile limit.

The distinction between tidal levels of "normal", "mean", "annual high" and "flooding" due to storms, are important when addressing issues of setbacks and filling.

Environmental Assessment

The impacts associated with the recommended activities of a new pier, expanded dredging and breakwater are discussed below, for each activity.

A. Commercial and Public Pier

1. Air Quality

During the clearing of the access road and parking area, trees and brush will be cut and burned at the site. Visible emissions and particulate matter will be generated during this stage. The duration will be short and will not have a long term impact on air quality. Only a local fire permit will be required.

2. Water Quality

Impacts to water quality will be limited to minor siltation associated with landside construction and some associated with pile driving.

Minor impacts can be expected from periodic swabbing of the pier and boat decks. A pumpout facility for pleasure boat holding tanks is not planned. Processing of catches are not expected to result from the pier or associated activities.

3. Wetlands

The filling of wetlands will not be required by this project. Filling in the intertidal zone will be limited to the area of the concrete abutment. Since piles will support the pier, impacts associated with rock filled construction upon marine life will be avoided.

4. Solid Waste Disposal

Construction debris will be generated by the pier project. The small pieces of wood and saw dust may be burned at the site or the Town's solid waste disposal area. Non-combustible debris, which should be minor, can be disposed of at the Town disposal area.

5. Flood Zone

The pier's deck elevation will be 22 feet above mean sea level. It will not be located in a designated flood plain.

6. Erosion/Siltation

Minor erosion and siltation can be expected by the sitework construction of the road and parking lot for the pier. Proper siltation fences and adequate seeding will minimize these impacts.

7. Traffic

During construction traffic will increase due to the workmen's vehicles and the delivery of materials. Once complete, increased traffic will be expected as the Harbor grows and more fishermen use the pier. Improvements to the pier's access road will be needed to handle this traffic.

B. Expanded Dredge Area

1. Air Quality

There will be no impact on air quality.

2. Water Quality

Siltation during the dredging can be expected, but will cease once dredging is complete. Also water draining from the spoils area will contain silt until the spoils have sufficiently dried and dewatered.

3. Wetlands

A spoils area for the dredge material will be needed, if it is not barged directly to an ocean dumping area. The spoils area might be located west of the inner harbor, and may impact on the wetlands there.

4. Solid Waste

Once the spoils area has been drained, the dewatered and dried soil will require land spreading and/or burial for ultimate disposal. Some use might be found as cover of the Town's solid waste disposal area. Tests on soil quality will determine its allowable uses.

5. Flood Zone

The spoils area may border a flood zone, but should be at an elevation above. There will be no long term impact upon flooding.

6. Erosion/Siltation

As mentioned above, siltation will occur during the dredging operation. There will be no erosion of landside soils due to this operation.

7. Traffic

Traffic impacts will result only due to the trucking of dewatered spoils. It is estimated that 18,250 truck loads (12 c.y. each) will be required for ultimate disposal of the spoils.

8. Historical/Archaeological

There will be no impacts on historical/archaeological areas.

9. Marine Life

With the disruption of the bottom, due to dredging, bottom dwellers such as clams, mussels, bloodworms and crabs will be adversely affected.

If ocean dumping is required for disposal of dredge material, a site at sea will have to be carefully selected so as not to disrupt marine life such as groundfish, scallops and quahogs.

C. Breakwater

1. Air Quality

There will be no impact on air quality.

2. Water Quality

Siltation, due to disruption of the harbor bottom, during construction can be expected, but will cease after construction is complete.

3. Wetlands

The filling of wetlands will be required by this project. Filling the intertidal zone will be limited to the area of fill under the breakwater. The rubble mound breakwater will have an impact upon marine life. The marine life impacted will include bottom dwellers, such as clams, mussels, blood worms and crabs.

4. Solid Waste Disposal

Construction of the breakwater will have no impact on solid waste disposal.

5. Erosion/Siltation

As mentioned above, siltation will occur during the construction of the breakwater. There will be no erosion of landside soils due to this operation.

6. Traffic

Traffic impacts will result only due to trucking of construction materials. It is estimated that 15,000 truck loads, 12 cubic yards each, will be required for the delivery of construction materials for the construction of the breakwater.

7. Historical/Archaeological

There will be no impact on historical/archaeological areas.

Agency Contacts

Points of contact at each agency are listed below:

1. Department of Environmental Protection
   Bureau of Land Quality Control
   Division of Licensing and Enforcement
   State House
   Augusta, Maine 04333 - (207) 289-2111
   Attn: Dave Studer

2. U.S. Army Corps of Engineers
   Maine Field Office
   Room 209
   Federal Building
   40 Western Avenue
   Augusta, Maine 04330 - (207) 622-8246
   Attn: Jay Clement

3. Bureau of Public Lands
   Department of Conservation
   State House
   Augusta, Maine 04333 - (207) 289-3061
   Attn: Carol Holden

4. U.S. Coast Guard
   Southwest Harbor, Maine 04679 - (207) 244-5517

5. Malcolm Richards, Area Biologist
   P.O. Box 21
   West Sullivan, Maine 04689 - (207) 422-3934

6. Department of Marine Resources
Bureau of Marine Development
State House Station 21
Augusta, Maine 04333 - (207) 281-2291
Attn: Michael Moser or Lorraine Stubbs

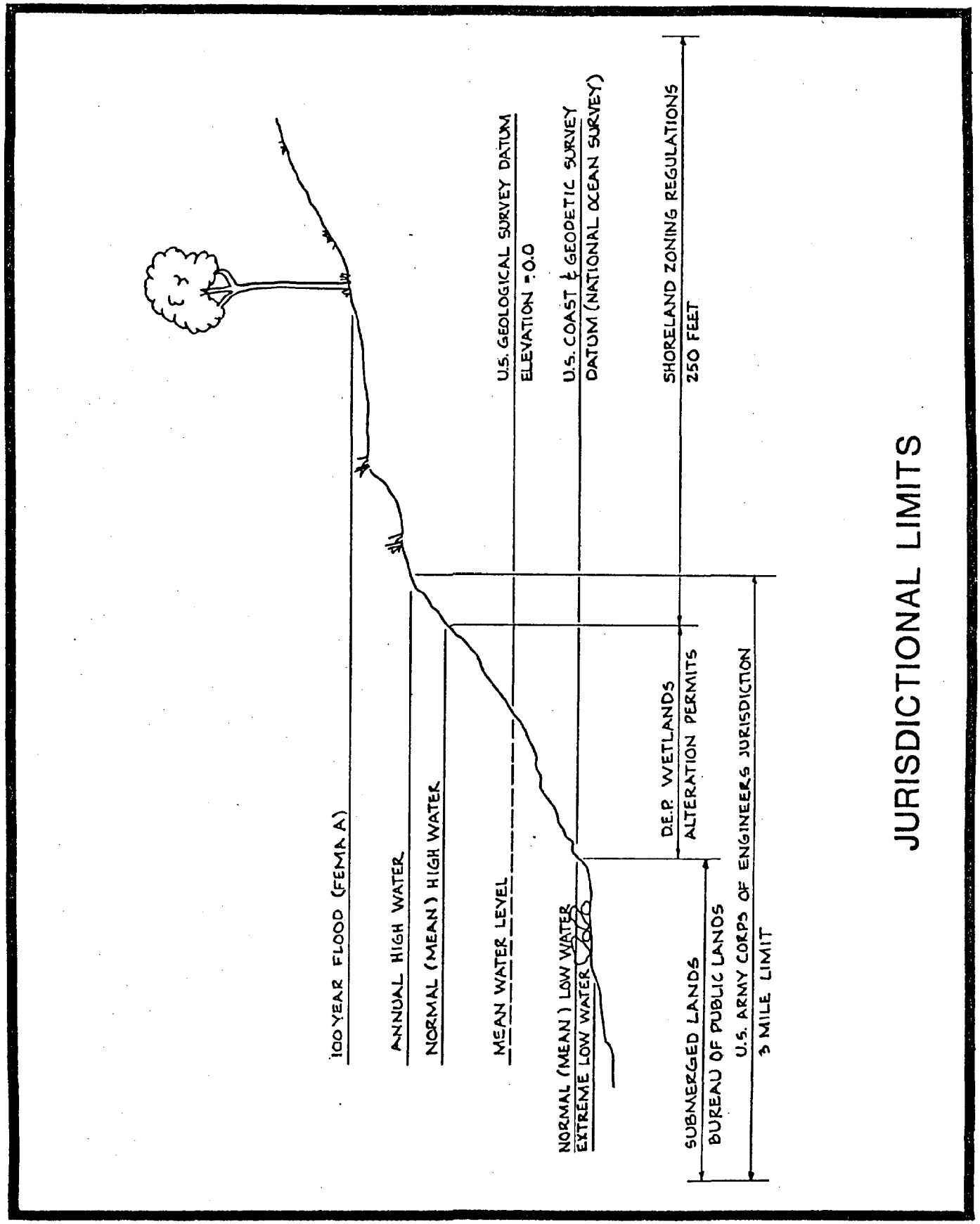


FIGURE 9

KIMBALL CHASE

SECTION 6

Proposed Pier

GENERAL

Bucks Harbor has experienced a large increase in its fishing fleet in the last twenty-six (26) years, from five (5) boats in 1960 to sixty (60) boats in 1986. This growth has affected the local economy as well. As a result of the increased fishing fleet, the industry now provides approximately two hundred (200) jobs, compared to fifteen (15) jobs in 1960. The possibility exists for even more job opportunities if the full potential of Bucks Harbor is realized. This potential is being limited because the harbor lacks a public pier.

It is important to note that a new public pier should not be placed in competition with existing piers. The purpose of the pier is to provide additional un-loading capabilities and a facility available to all fishermen to repair and maintain their boats.

PIER BERTHING CAPACITY

Of the 60 boats currently in Bucks Harbor, 35 boats un-load their catches at the Co-op Pier. The remaining boats use Urquhart's Wharf or transport their catch to shore by smaller boats. Space has been provided for berthing at the new pier for boats to un-load their catch. Berthing requirements have been based upon the number of boats served each day and the time needed to un-load. It is known that un-loading of quahogs may take up to 2 hours, while lobsters can be un-loaded in 1/2 hour. Currently there are approximately 40 lobster boats and 20 draggers in the harbor. The number of berths at the expanded Co-op Pier will be 7 or 8, depending upon boat lengths. There will be five (5) or six (6) berths for lobster boats and two (2) berths for quahog and scallop boats.

PIER ALTERNATIVES

Several waterfront areas in Bucks Harbor have been investigated as possible sites for a public pier. Factors affecting the location and size of the public pier include:

- Location in regards to needed supplies (i.e. fuel,etc.)
- Availability of parking
- Depth of water at low tide
- Access to public roadway
- Minimal environmental impact
- Present and future berthing needs
- Potential for increased pleasure and tour boats

Through site investigations and discussions with Town officials, several sites were discussed:

- Urquhart's Pier and Lobster Pound Area
- Bucks Harbor Fishermen's Co-op Pier on the northeast side of the harbor.
- Malloy Property, north of Urquhart's Pier

Based upon a review of costs and details of each site, it has been determined that the best suitable location for a public pier would be an extension to the Bucks Harbor Fishermen's Co-op pier. Two (2) alternative pier layouts and cost estimates have been prepared, for the sites finally considered. These are presented below.

Selected Alternative 1 consists of extending the existing pier eighty (80) feet and then forming an "L-shaped pier" with a one hundred and ten (110) foot perpendicular section. This layout consists of a wooden deck, treated timber piles, oak fender piles, a stairway, hoists and necessary utilities. The associated utilities include electricity and water supply. This layout includes construction of a gravel parking area for thirty (30) vehicles. The total estimated cost for the entire facility is $500,000. A detailed breakdown of the costs associated with the selected plan is shown on Table 7. A site plan showing the proposed layout is shown in Appendix F.

Table 7
Preliminary Cost Estimate
Selected Alternative 1

Improvement to Existing Pier:	
3" Decking, Selective Pile Replacement, Etc. 2,700 sf @ $20/sf	$ 54,000
Pier:	
3" Decking, Piles, Joists, Etc. 5,700sf @ $35/sf	200,000
Floats, 5-10'x20', 1,000 sf @ $18/sf	18,000
Stairway - Lump Sum	5,000
Hoists 2 @ $5,000 ea.	10,000
Power, Lump Sum	10,000
Water, Lump Sum	10,000
3" Wave Suppressors, 1,500 sf @ $10/sf	15,000
Oak Fender Piles, 60-40' piles @ $10/1f	24,000
Sitework:	
Clearing and Grubbing 0.21 ac. @ $2,000/ac.	500
Common Excavation, 200 cy @ $5/cy	1,000
Gravel 500 cy @ $5/cy	2,500
Hot Bituminous Pavement Grade "C", 170 tons @ $35/ton	6,000
Land Acquisition	50,000
Soundings, Lump Sum	1,000
Borings, Lump Sum	6,100
Permits, Lump Sum	5,000
Subtotal:	$418,100
Contingency:	41,900
Engineering:	40,000
Total:	$500,000

Alternative 2, surveyed by transit on June 11, 1986, consists of a two hundred (200) foot long "L-shaped" pier with five (5) attached floats for loading and unloading cargo, and for short-term maintenance. This layout consists of a wooden deck, treated timber piles, oak fender piles, a stairway, railings, hoists, and necessary utilities. The associated utilities include electricity, a welding outlet, and water supply. This layout also includes construction of a parking area for thirty (30) vehicles. The total estimated cost for the entire facility is $578,000. A detailed breakdown of the costs associated with this alternative is shown in Table 8. A site plan depicting the alternative pier layout is shown in Appendix G (See Figure 10 for the pier elevation view).

Table 8
Preliminary Cost Estimate
Alternative 2

Pier:	
3" Decking, Piles, Joists, Etc. 9,300 sf @ $35/sf	$325,500
Hand Railing 210 lf @ $15/lf	3,200
Floats, 5-10'x20', 1,000 sf @ $18/sf	18,000
Stairway - Lump Sum	5,000
Hoists 2 @ $5,000 ea.	10,000
Power, Lump Sum	10,000
Water, Lump Sum	10,000
Dredging, 1,200 cy @ $5/cy	6,000
3" Wave Suppressor Planks, 1,500 sf @ $10/sf	15,000
Oak Fender Piles, 60-40' piles @ $10/lf	24,000
Sitework:	
Clearing and Grubbing 0.3 ac. @ $2,000/ac.	600
Common Excavation, 1,100 cy @ $5/cy	5,500
Crushed Gravel Subbase, 1,000 cy @ $9/cy	9,000
Hot Bituminous Pavement Grade "B", 215 tons @ $35/ton	7,500
Hot Bituminous Pavement Grade "C", 130 tons @ $35/ton	4,600
Fencing, 210 lf @ $10/lf	2,100
Culvert, 30 lf @ $25/lf	800
Striping, 1,600 lf @ $0.30/lf	500
Land Acquisition, Lump Sum	20,000
Soundings, Lump Sum	1,000
Borings, Lump Sum	6,100
Permits, Lump Sum	5,000
Subtotal:	$489,400
Contingency:	48,600
Engineering:	40,000
Total:	$578,000

Before developing the selected plan, the site previously owned by Dana Urquhart was evaluated. This site was eventually eliminated when land acquisition was no longer possible. Besides land acquisition, the lack of available land for parking and the steepness of the access road were problems associated with this site. These disadvantages led to the recommendation of the selected plan.

Project costs were developed based upon several sources. Land acquisition costs were estimated from values reported by the Action Agency Real Estate Office in Machias. Borings were quoted by Maine Test Borings, Inc. in Bangor. Soundings and permits have been estimated from previous projects now completed.

BENEFITS OF PIER EXPANSION

Neither an extensive cost/benefit analysis nor harbor economic impact study are within the scope of this study. Instead, qualitative descriptions of probable economic benefits including direct savings or revenues and employment impacts are offered. A comprehensive cost/benefit analysis of a project compares the future project costs with the direct benefits resulting from the project over the economic life of the investment. Project costs consist of initial outlays, operating and maintenance costs and normal replacement costs. Project benefits for a pier reflect only direct benefits or savings to the persons using the pier. Typical direct benefits include savings in loading and unloading times and revenues that would be lost without a new facility.

Harbor activities also generate employment opportunities which are very important to the economy and people of Machiasport and Down East Maine. The following summary provides employment impact estimates created by the pier expansion in Machiasport.

Table 9

SUMMARY OF EMPLOYMENT IMPACT

YEAR	NEW FULL-TIME JOBS*
1987	1
1995	22
2000	35

* In Reference to 1986 Employment Figures. New full-time jobs, based upon 1.25 jobs for every new boat added.

These full-time job equivalent positions do not include temporary employment caused by harbor construction activities, but do include jobs in the following categories:

- Fishermen
- Marine Services which will include fuel, supplies, equipment, bait, repairs, storage.
- Trucking.
- Financial services to fisherman and insurance to vessels.

FUNDING SOURCES

Planning Grants and Action Grants are available from the State Planning Office. Planning Grants, for planning and design, are limited to $20,000. Action Grants, for construction, are limited to $50,000 per project. These grants are for waterfront related projects.

Construction Grants will be available from the Maine Department of Transportation through the Ports and Marine Transportation Division. The State's participation may be up to 75%.

CONSTRUCTION MATERIALS AND DESIGN LOADS

Timber Piles

Timber piles shall conform to ASTM D 25, Class B or better. Treated marine piling shall bear AWPI Quality Mark MP-2. Preferable species are Southern Pine or Douglas Fir, which shall be seasoned prior to treatment. Cut ends shall be treated by puddling with creosote or coating tops of piles with pitch, with or without sheet metal covers.

Timber Framing

Substructure timbers shall be creosote treated with only seasoned timber to be used for framing. Minimum dimension shall be three (3) inches in and below splash zone, and two (2) inches above splash zone. Retention and penetration of creosote shall conform to requirements of AWPA C-18. Preferable species are Southern Pine and Douglas Fir. Bolt spacing shall not be less than six (6) inches center to center and not less than 2-1/2 inches from edge or 4 inches from end of the timber.

Deck Framing and Bracing

Timber in deck structure shall conform to the "Design Values for Wood Construction" and the "National Design Specification for Wood Construction", latest edition, as published by the National Forest Products Association. Timber shall be pressure treated. Treads and runway wearing surfaces shall be resistant to wear,

preferably oak or maple. Dimensions shall be a maximum of 12 inches wide and a minimum of 3 inches thick. Provide a minimum clearance of 3/8 inch between treads, attached to planks with drive screws or a minimum of twenty (20) penny nails. Maintain a minimum of 3/8 inch clearance between planks, a minimum of 12 inches wide, attached to stringers or nailers with drive screws or minimum of twenty (20) penny nails.

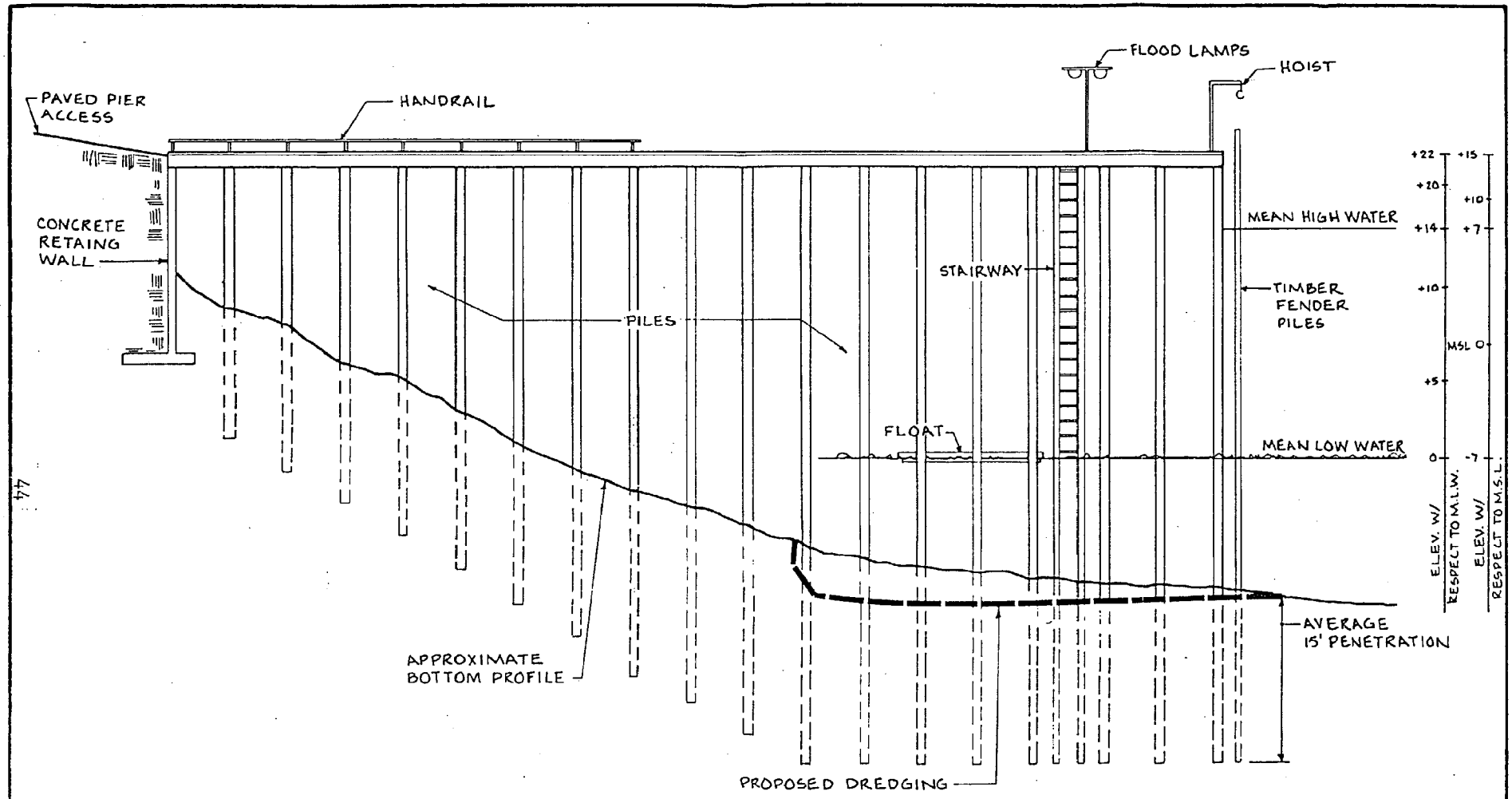
Hardware and Fittings

All hardware and fittings shall be galvanized. The minimum diameter of bolts shall be 1 inch and the minimum thickness of metal shall be 1/2 inch in or below splash zone. The minimum diameter of bolts shall be 3/4 inch, and the minimum thickness of metal shall be 3/8 inch above the splash zone.

DESIGN LOADS

Dead loads shall be estimated by the actual weights of the materials used. Live loads shall be the greatest load produced by the intended use and occupancy, but not less than five hundred (500) pounds per square foot for general material handling areas. The following loads shall be considered, but not limited to: truck loads, impact from berthing boats, forces from moored ships, winds on the pier, ice and currents, earth pressures, tidal lag, and seismic forces.

The basic allowable stresses for timber piles shall be determined in accordance with the standard for Establishing Design Stresses in Round Timber Piles, ASTM D-2899. Safe column loads for unsupported piles shall be determined from column formulas contained in the National Design Specification for Stress-Grade Lumber and its Fastenings, by the National Forest Products Associations.



PROPOSED PIER ELEVATION

KIMBALL CHASE COMPANY INC.
53 Front Street
Bath, Maine 04530

Figure 10

SECTION 7

BREAKWATER EVALUATION

The ideal anchorage is one with depth great enough to accommodate large boats, and wave conditions calm enough to protect moored boats and allow for unloading, loading and routine maintenance.

Of prime consideration, is the location of the harbor entrance as it relates to the character of waves. Some areas of the eastern seaboard have information available concerning wave statistics. In the absence of these statistical data, analysis of wind and storms can be made to determine wave height and design requirements. Both wave period (time between wave crests) and amplitude (wave height) are of interest. The most useful harbors are those where wave amplitude decreases as a given wave travels toward shore. Methods are available for determining these characteristics by constructing wave refraction diagrams.

Littoral drift, as a wave travels along a shore line, determines the length of breakwater needed to provide a quiet harbor.

The harbor dredging project, carried out by the U. S. Corps of Engineers in 1960, has served to make the Corps cognizant of the problems faced by Bucks Harbor. Mr. John Smith, with the Coastal Development Section for the Corps of Engineers in Waltham, Massachusetts, has indicated that the Corps will participate in breakwater projects if they can determine that the benefit/cost ratio is greater than 1.0. Federal participation is limited to 2 million dollars, with the local share amounting to 10% up front, plus an additional 10% over a thirty (30) year period. This formula applies to most commercial projects. Cost sharing for private recreational projects is on a 50% cost sharing basis. The first step in determining if the Corps of Engineers can participate in a breakwater project is a letter of request from the Town to the Division Engineer. Such a request has been submitted by the Town of Machiasport within which was specified the need for a breakwater to solve navigational problems. The next step will be for the Corps of Engineers to undertake their own initial study, which can be done using normal operating funds currently in existence.

Today, two (2) types of breakwaters are commonly used. These include fixed and floating. The fixed breakwater, which is more traditional to the United States, can be constructed of stone, steel, timber, concrete or a combination of two (2) or more of these materials. Stone is the material most commonly used for

large breakwaters and jetties associated with heavy seas. Steel structures are more commonly associated with low wave amplitude and are usually fixed to other structures. Timber pile facilities are also used in low wave height areas. Concrete is used for finish on breakwaters and jetties in protected areas.

Floating breakwaters are commonly constructed of steel and wood members fixed with flotation material. Examples of floating breakwaters are not numerous, but one facility is being installed in Boothbay Harbor and another has been in place in New York Harbor, with an additional one planned for Philadelphia. An alternate to steel and timber are rubber tire breakwaters but these are unsightly.

A typical breakwater cross-section is shown by Figure 11 for a rubble-mound structure.

The Town of Jonesport is undertaking a $10 million breakwater project, soon to be constructed. The Army Corps of Engineers is funding a major portion of the project, which is part of the Omnibus Water Bill. Eight million dollars of Federal money will be used to construct this 1/4 mile breakwater. Other funding sources include a Community Development Block Grant, Maine Department of Transportation ($1.25 million) and $250,000 from the Town of Jonesport. The breakwater will be a combination of cellular steel and rubble mound facility. The rubble mound portion will be in shallow water, while the steel section will be at depths of 30' or greater. The Jonesport breakwater has been justified after a study which indicated that 300 boats in the Jonesport area would be affected.

As well as the money available from the Corps of Engineers for such projects, the Maine Department of Transportation can also participate in breakwaters. It must be stressed that a long lead time is required on such facilities by both State and Federal agencies.

BREAKWATER CONSIDERATIONS

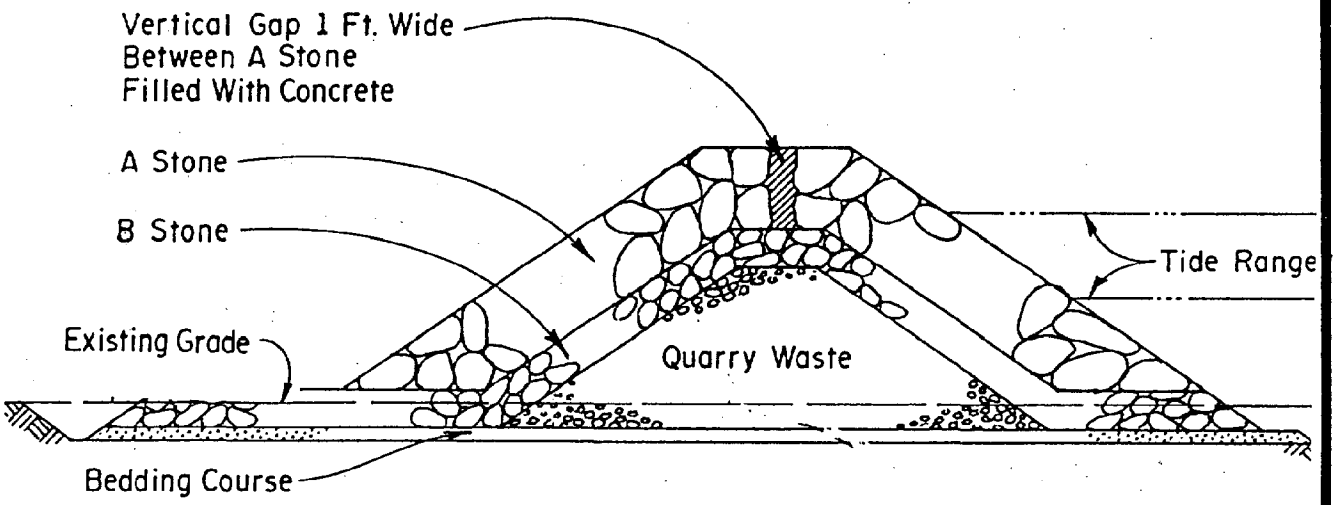
Several breakwaters have been considered for Bucks Harbor. The locations of the breakwaters are shown in Figure 12. Breakwater Option A was considered as a preliminary location for a 1,200 foot breakwater due to natural formations which would save in construction costs, accessibility of the construction site and the relatively shallow water depth compared to the other possible locations. Breakwater Option A would, however, have a greater limiting effect on the mooring area than the other two (2) options.

Breakwater Options B and C were considered as preliminary locations for 1,000 foot and 700 foot breakwaters, respectively. Both would have non-limiting effects on the harbor mooring area. Both options allow for access to the harbor through the deepest water available. Breakwater Options B and C, while not limiting the harbor mooring area, would be hampered during construction by their locations and water depths.

At this time, breakwater Option A appears most viable, although an in depth study by the Corps of Engineers will need to be undertaken to determine the actual need for and location of a breakwater.

The need for a breakwater was particularly evident during the "groundhog gale" which occurred on February 2, 1976. During this storm, winds in excess of 70 miles per hour blew from the southeast. It is reported that one or more boats capsized at their moorings in Bucks Harbor during this storm.

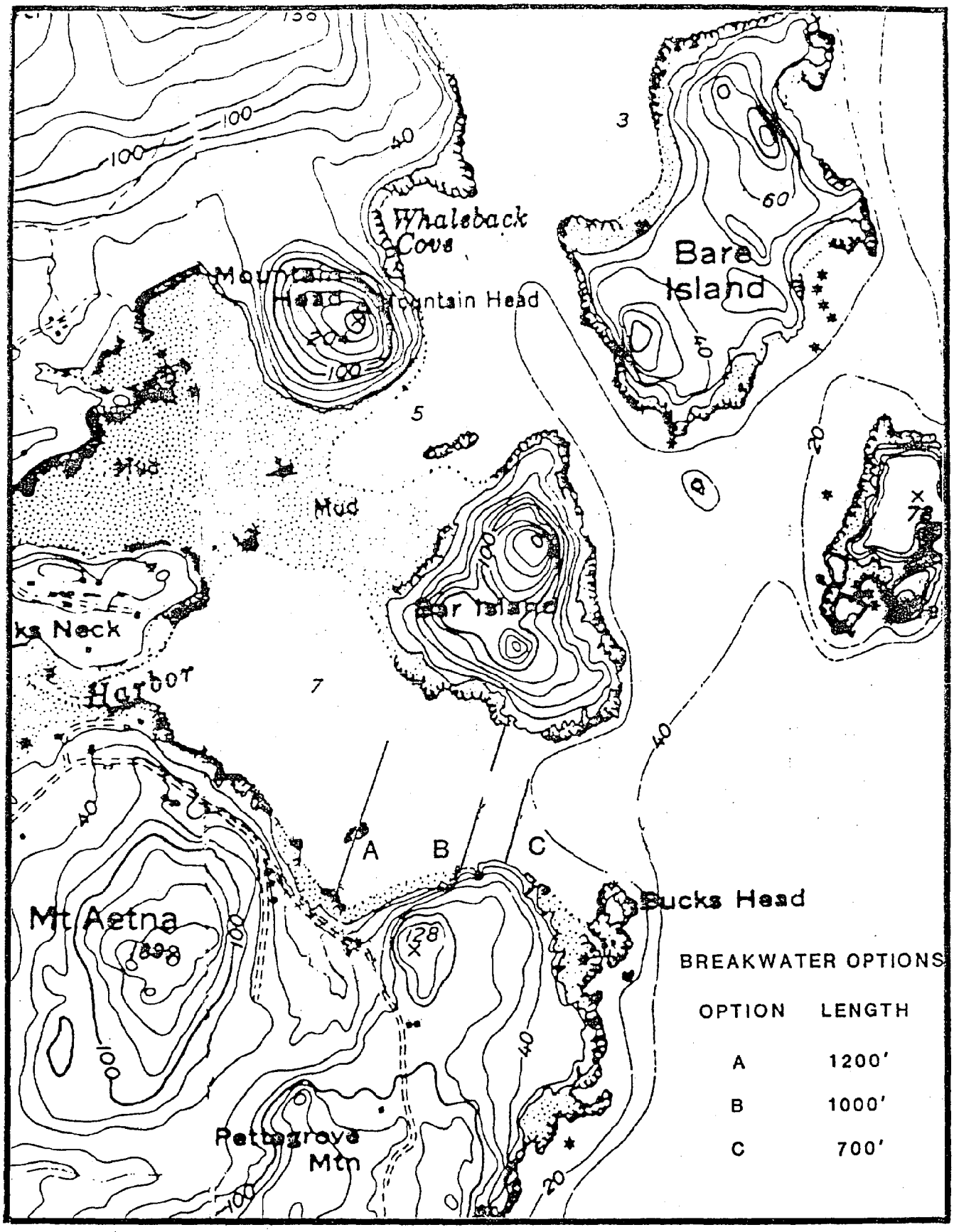
Based upon costs reported for completed breakwaters, the overall costs could range from a minimum of $5 million to a maximum of $10 million.



TYPICAL BREAKWATER CROSS SECTION

FIGURE 11

KIMBALL CHASE
company inc



BREAKWATER OPTIONS

FIGURE 12

KIMBALL CHASE

company inc

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16. Cynthia Bourgeault, "Claiming A Legacy", Down East Magazine, Rockport, Maine, July 1986.

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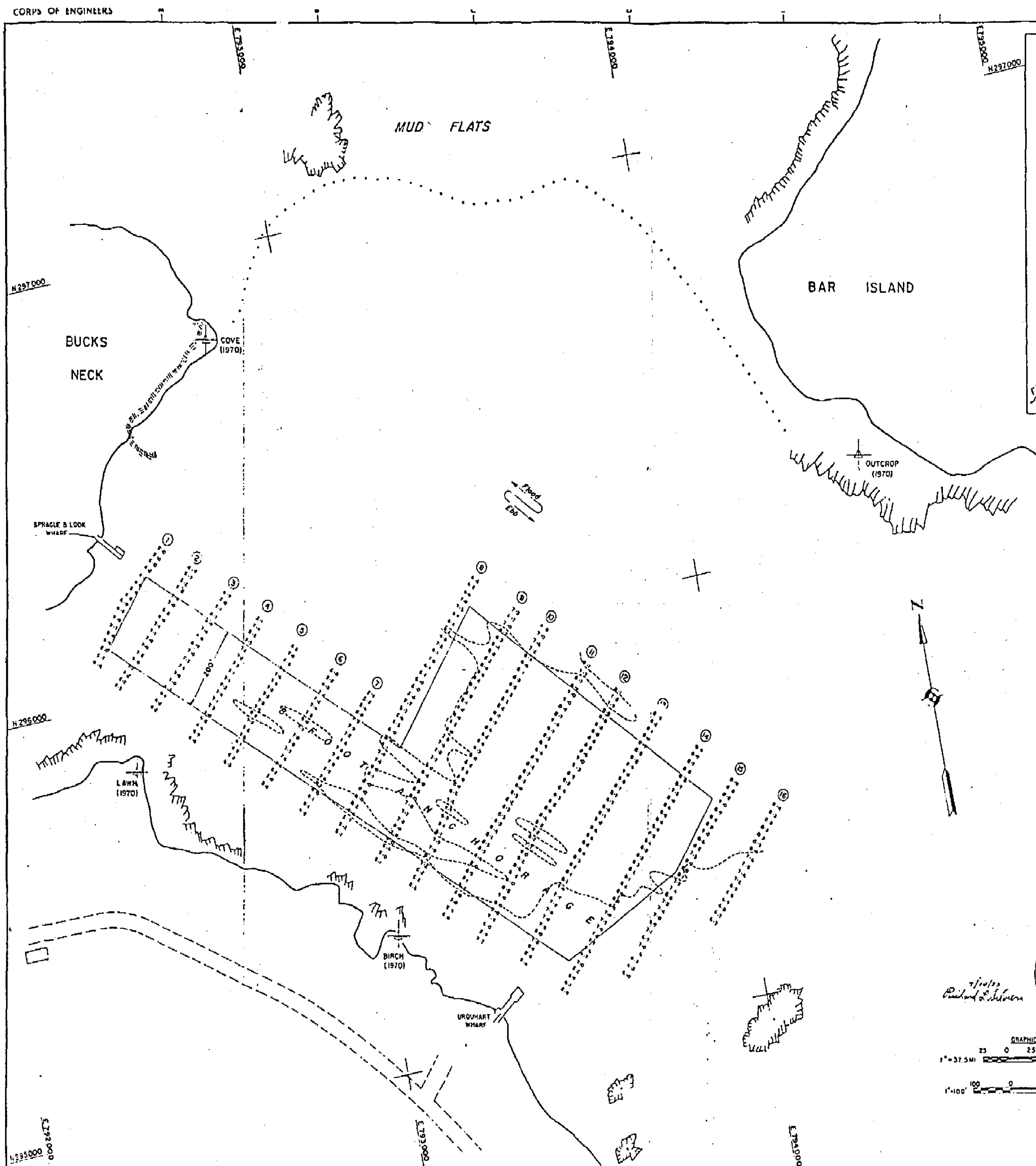
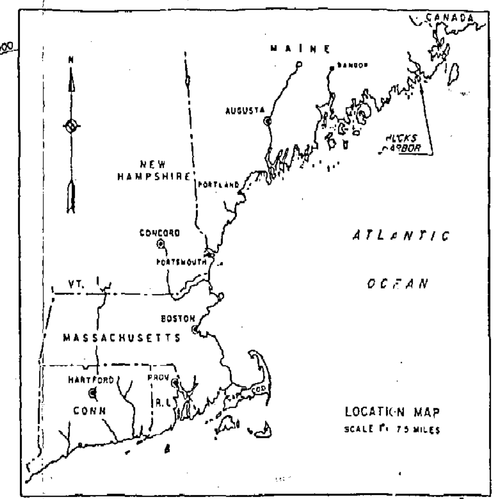
APPENDIX A

APPENDIX B





GORGE (1970)

GENERAL NOTES

Soundings are in feet and tenths and are referred to the plane of Mean Low Water.

Hydrography from survey of June 20 & 22, 1983.

Topography is from previous surveys.

Field books R&H 5040, 5041 & 5042.

Line numbers shown thus (12)

8 Foot depth contour shown thus - - - - - -

Coordinates are on the Transverse Mercator System for the State of Maine (East Zone).

The information depicted on this map represents the results of surveys made on the dates indicated and can only be considered as indicating the general conditions existing at that time.

B.M. △ LAWN (1970) is a 5/8" drill hole in cut triangle (Disk is gone) on southerly side of Bucks Harbor. Station is about abreast of end of Roy Sprague Dock (Now called Bucks Harbor Co-Op Pier) and about 700' ± southerly of dock. Elevation: 19.06 feet above Mean Low Water.

7/1/83
Richard L. Silveira

GRAPHIC SCALES

1" = 37.5 MI — 25 0 25 50 75 MI.

1" = 100' — 100 0 100 200 FT.

REVISION	DATE	DESCRIPTION	BY

TIBBETTS ENGINEERING CORP.
710 DEANE ST.
NEW BEDFORD, MASS

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION
CORPS OF ENGINEERS

DR. BY J.J.M. | TR. BY J.J.M. | CK. BY R.& M.

SUBMITTED — PROJECT ENGINEER

REVIEWED

BUCKS HARBOR
MACHIASPORT, MAINE
8-FT. ANCHORAGE
CONDITION SURVEY

APPROVED — CHIEF, ENGINEERING DIVISION

DATE JULY, 1983

SCALE

DRAWING NUMBER 2198

APPENDIX C

HARBOR MANAGEMENT ORDINANCE

Town of Machiasport, Maine

SECTION I. CHANNEL

Clear a one hundred foot wide channel at the mouth of Bucks Harbor commencing at the old weirs located on the east and west sides with a direct path to within one hundred feet of the Bucks Harbor Co-op wharf. This channel then narrows to a fifty foot wide channel (measured at low water mark) into the creek area.

SECTION II. CLEARANCE

No boat can swing within one hundred feet of wharves or docks. Note: Lobster cars and bait cars, which are connected to wharves, which are connected to land, are also considered docks.

SECTION III. MOORINGS

A. The present mooring scheme (using granite block, chain, pole, etc.) is satisfactory at this time.
B. All moorings must be cleared through the Harbor Master and the Bucks Harbor Improvement Committee.
C. No boat can have a bridle longer than the overall length of the boat before it is spliced.
D. All moorings must be so marked as to be visible at all times.
E. The use of present mooring poles meets with the committee's approval at the present time. However, pole replacement must be brought before the Bucks Harbor Improvement Committee. It is the concern of the committee that all pole moorings be replaced with chain type.
F. Ownership of moorings cannot be transferred.

SECTION IV. APPLICATION, RENEWAL AND MOORING FEES

A. This ordinance applies to resident and non-resident owners alike.
B. All moorings will be renewed every two years.
C. Fees for commercial boats will be $5.00 every two years. Fees for pleasure boats will be $10.00 every two years.

SECTION V. SPEED

The Bucks Harbor speed limit shall not exceed five (5) knots commencing at the harbor entrance buoy.

SECTION VI. FLOATS

Floats are to be located in the designated float areas. The float owners will locate their floats in the specific locations as designated and approved by the Harbor Master and the Bucks Harbor Improvement Committee.

SECTION VII. BEACH MAINTENANCE

The Harbor Master and the Bucks Harbor Improvement Committee will have the right to clean up beaches associated with Bucks Harbor.

SECTION VIII. FUTURE ORDINANCES

The committee shall have the right to propose new ordinances as applicable in the future.

APPLICATION FOR BOAT MOORING
LOCATION IN BUCK'S HARBOR

Com. FEE $5.00 2 yr.
Non-Com. " 10.00 2 yr.

TO: Harbor Master, Town of Machiasport, Maine Date_____

FROM: _____ _____
(print name) (address)

_____

Please consider my request for:

1. New Mooring Location ( ) at _____part of the harbor.

2. Old Mooring Relocation ( ) from _____part of the harbor, to_____part of the harbor.

This mooring will be used Year Round ( ), Summer Only ( ) for the boat:

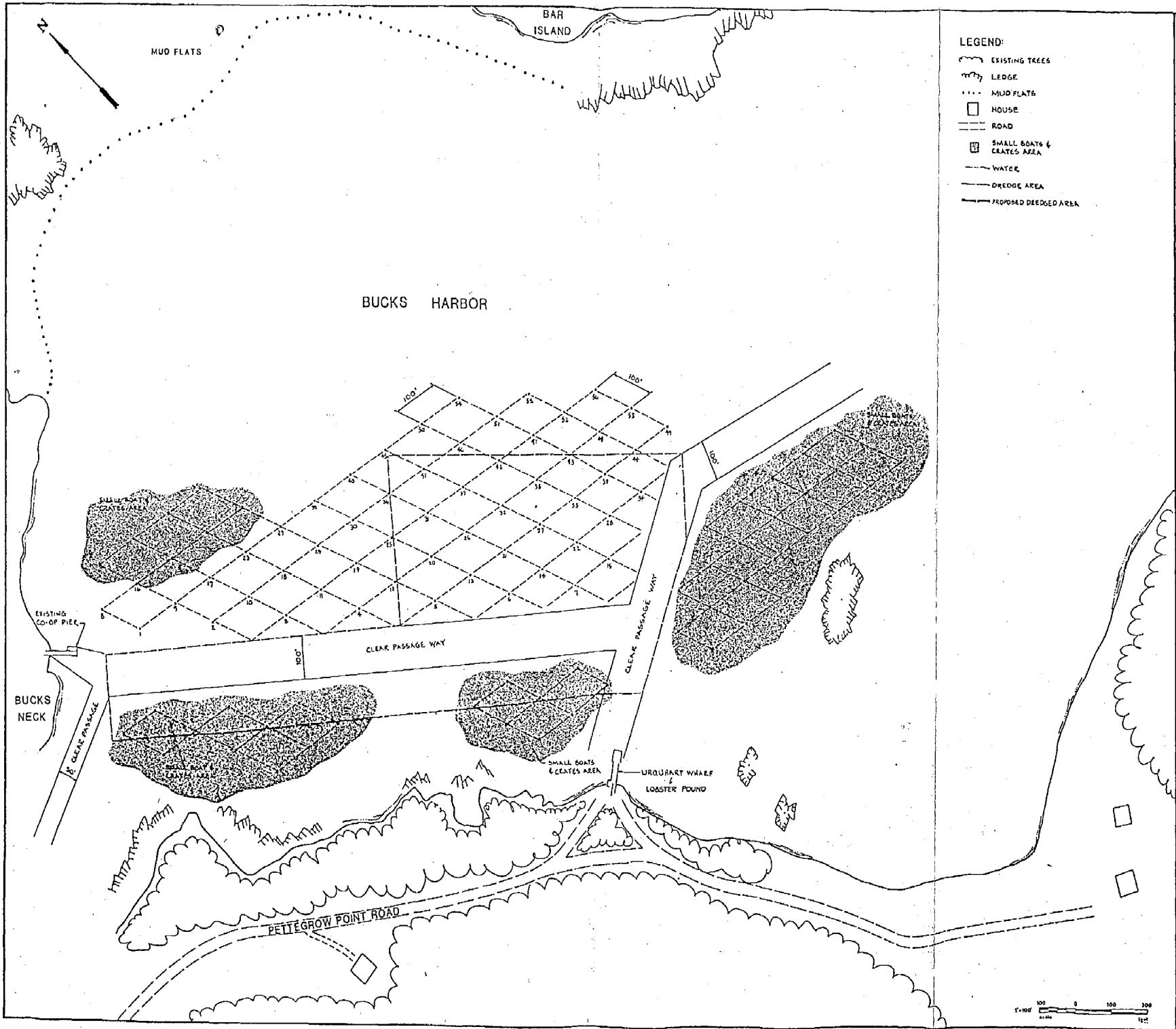
NAME_____ NUMBER_____

Length overall_____ Beam_____ Draft_____

Type of mooring that I plan to use: Granite ( ), Weight _____#, Mushroom( ), Weight____#
Other _____ Size of Chain_____ Length of Chain _____
Size of Pennant_____ Length of Bridle_____
Type of Marker: Log ( )
Buoy ( )

Signed: _____

APPENDIX D



KIMBALL CHASE Company, Inc.

BUCKS HARBOR STUDY
MACHIASPORT, MAINE

MOORING PLAN

D-1

APPENDIX E

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT

(33 CFR 325)

OMB APPROVAL NO. 0702-0036
Expires 30 June 1986

The Department of the Army permit program is authorized by Section 10 of the River and Harbor Act of 1899, Section 404 of the Clean Water Act and Section 103 of the Marine, Protection, Research and Sanctuaries Act. These laws require permits authorizing activities in or affecting navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters. Information provided on this form will be used in evaluating the application for a permit. Information in this application is made a matter of public record through issuance of a public notice. Disclosure of the information requested is voluntary; however, the data requested are necessary in order to communicate with the applicant and to evaluate the permit application. If necessary information is not provided, the permit application cannot be processed nor can a permit be issued.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application *(see sample drawings and instructions)* and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

1. APPLICATION NUMBER *(To be assigned by Corps)*

2. NAME AND ADDRESS OF APPLICANT

Town of Machiasport
Town Hall
Machiasport, Maine 04655

Telephone no. during business hours

A/C (207) 255-8745 *(Residence)*
A/C (207) 255-4516 *(Office)*

3. NAME, ADDRESS, AND TITLE OF AUTHORIZED AGENT

Millard Urquhart, Jr., Harbor Master
Bucks Harbor, Maine 04618

Telephone no. during business hours

A/C ( ) _____ *(Residence)*
A/C ( ) _____ *(Office)*

Statement of Authorization: I hereby designate and authorize _____ to act in my behalf as my agent in the processing of this permit application and to furnish, upon request, supplemental information in support of the application.

SIGNATURE OF APPLICANT

DATE

4. DETAILED DESCRIPTION OF PROPOSED ACTIVITY

4a. ACTIVITY

Construction of "L" shaped public fishing pier, access road, parking area and support utilities.

4b. PURPOSE

Loading, unloading and servicing of sixty (60) fishing boats.

4c. DISCHARGE OF DREDGED OR FILL MATERIAL

5. NAMES AND ADDRESSES OF ADJOINING PROPERTY OWNERS, LESSEES, ETC., WHOSE PROPERTY ALSO ADJOINS THE WATERWAY

Bucks Harbor Fisherman's Co-op
Bucks Neck Road

6. WATERBODY AND LOCATION ON WATERBODY WHERE ACTIVITY EXISTS OR IS PROPOSED

Bucks Harbor

7. LOCATION ON LAND WHERE ACTIVITY EXISTS OR IS PROPOSED

ADDRESS:

Bucks Neck Road

STREET, ROAD, ROUTE OR OTHER DESCRIPTIVE LOCATION

Washington	Maine	04618
COUNTY	STATE	ZIP CODE

Town of Machiasport

LOCAL GOVERNING BODY WITH JURISDICTION OVER SITE

8. Is any portion of the activity for which authorization is sought now complete? ☐ YES ☒ NO
If answer is "Yes" give reasons, month and year the activity was completed. Indicate the existing work on the drawings.

9. List all approvals or certifications and denials received from other federal, interstate, state or local agencies for any structures, construction, discharges or other activities described in this application.

ISSUING AGENCY	TYPE APPROVAL	IDENTIFICATION NO.	DATE OF APPLICATION	DATE OF APPROVAL	DATE OF DENIAL
Maine DEP	Wetlands	N.A.			
Town Planning Board	Site Plan	N.A.			
Town	Building Permit	N.A.			
Maine BPL	Submerged Lease	N.A.			

10. Application is hereby made for a permit or permits to authorize the activities described herein. I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities or I am acting as the duly authorized agent of the applicant.

SIGNATURE OF APPLICANT	DATE	SIGNATURE OF AGENT	DATE

The application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in Block 3 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of The United States knowingly and willfully falsifies, conceals, or covers up by any trick, scheme, or device a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false,fictitious or fraudulent statement or entry, shall be fined not more than $10,000 or imprisoned not more than five years, or both.

Do not send a permit processing fee with this application. The appropriate fee will be assessed when a permit is issued.

Maine Department of Environmental Protection
Bureau of Land Quality Control
State House
Augusta, Maine 04333
Telephone: 289-2111

Application No._____
(To be filled in by DEP)

DATE STAMP
(To be filled in by DEP)

APPLICATION FOR WETLANDS ALTERATION PERMIT
(38 MRSA § 474)

AND

WATER QUALITY CERTIFICATION
(P.L. 92-500)

PLEASE TYPE OR PRINT

Name of Applicant: Town of Machiasport

Address: Town Hall, Machiasport, ME 04655

Telephone Number: 255-4516

Local Contact or Agent (Name & Tel. No.): Millard Urquhart, Jr., Harbor Master
(207) 255-8745

LOCATION OF ACTIVITY

Street or Route No.: Bucks Neck Road

Municipality or Township: Machiasport

County: Washington

By signing this application the applicant certifies that he has (1) published the public notice once in a newspaper circulated in the area where the project is located, (2) sent a copy of the notice form to the owners of property abutting the land upon which the project is located, (3) sent a copy of the public notice form to the chief municipal officer and chairman of the municipal planning board, and (4) sent a duplicate of this application to the municipal office.

DATE:_____

_____
Signature of Applicant

TITLE: Harbor Master
(If other than applicant, attach letter of agent authorization)

CHECK YOUR APPLICATION. BE SURE THAT ALL INFORMATION REQUESTED IS SUBMITTED, ALL QUESTIONS THAT ARE PERTINENT ARE ANSWERED AND THAT THE DIAGRAM IS COMPLETE AND SPECIFIC (BE SURE TO INCLUDE ALL DIMENSIONS).

IF ANY INFORMATION IS MISSING YOUR APPLICATION WILL BE RETURNED TO YOU.

(Revised 6/79)

Wetland Application Instructions

With this application the applicant must:

1. Obtain the appropriate USGS topographic map (available at most sporting goods, book, hardware, stationery stores, etc.). Indicate the location of your project on the map, and attach it to the application.

2. Provide one photograph of the wetland area involved.

3. Publish a copy of the Notice (last page of this application) in the legal notice section of a newspaper circulated in the area where the project is located.

4. Send a copy of the NOTICE form attached to this application to the owners of property abutting the land upon which the project is located. Their names and addresses can be obtained from town tax maps or local public officials.

   Set forth below the names of the abutting property owners:

NAME	ADDRESS
Harland Flynn	Bucks Harbor, Maine 04618

5. Send a copy of this application, together with all exhibits, to the municipal offices. If the land does not lie within an organized municipality, the applicant shall send a copy of this application, together with exhibits, to the office of the County Commissioners. The applicant shall also send a copy of the NOTICE attached to this application to the Chairman of the Planning Board, if any, and the chief municipal officer, if any.

6. Attach copy of deed, lease, purchase agreement, or other legal document establishing title, right or interest of applicant in the site.

7. If the applicant is a corporation attach a certificate of good standing from the Secretary of State of Maine.

Check below any other permits required for the project. Indicate with an asterisk (*) those permits already obtained.

U.S. Army Corps of Engineers (Tidal Waters) ☒

Waste Discharge (DEP) ☐

Other (Explain) ☐ _____

_____

PROJECT SUMMARY–WETLANDS ACT & CERTIFICATION

TO BE FILLED IN BY DEP

Applicant: _____

City/Town: _____ **County:** _____

Name of Project: _____

Project No.: _____

1. Description of Project: Construction of "L" shaped public fishing pier, access road, parking area and support utilities.

2. Length of shoreline on the coastal wetland owned or controlled by the applicant.

   240 feet

3. Indicate nature of shoreline and tidal area (grassy, mud, rock, etc.)

   Rocky

4. Actual physical dimensions of project:

   For the purposes of this application wetlands is defined as all area seaward of the debris line left by normal storm flowage. Please refer all dimensions to this mark.

   Length out into wetland: 200 feet

   Width along shore: 30 feet

   Height: Elevation 22 above MSL

5. Description of present use of the wetland: Private property

6. Description of present use of the adjacent wetland: Private property to north and south.

7. List equipment to be used in construction of the project: Bulldozer, backhoe and trucks on landside barge and tug for pier.

8. If this project is part of a larger project describe below:

None

9. If dredging or filling indicate number of cubic yards: _____

10. Indicate location for deposition of dredged material: _____

11. Is this project to be located within a coastal sand dune system? ☐ YES ☒ NO

If YES, what are the actual physical dimensions of the project that will involve the coastal sand dune system? _____

12. How far away is the harbor line from the farthest extension of the proposed project into the wetland? 110 feet

13. Is this project associated with a commercial enterprise? (Please check one) ☒ YES ☐ NO

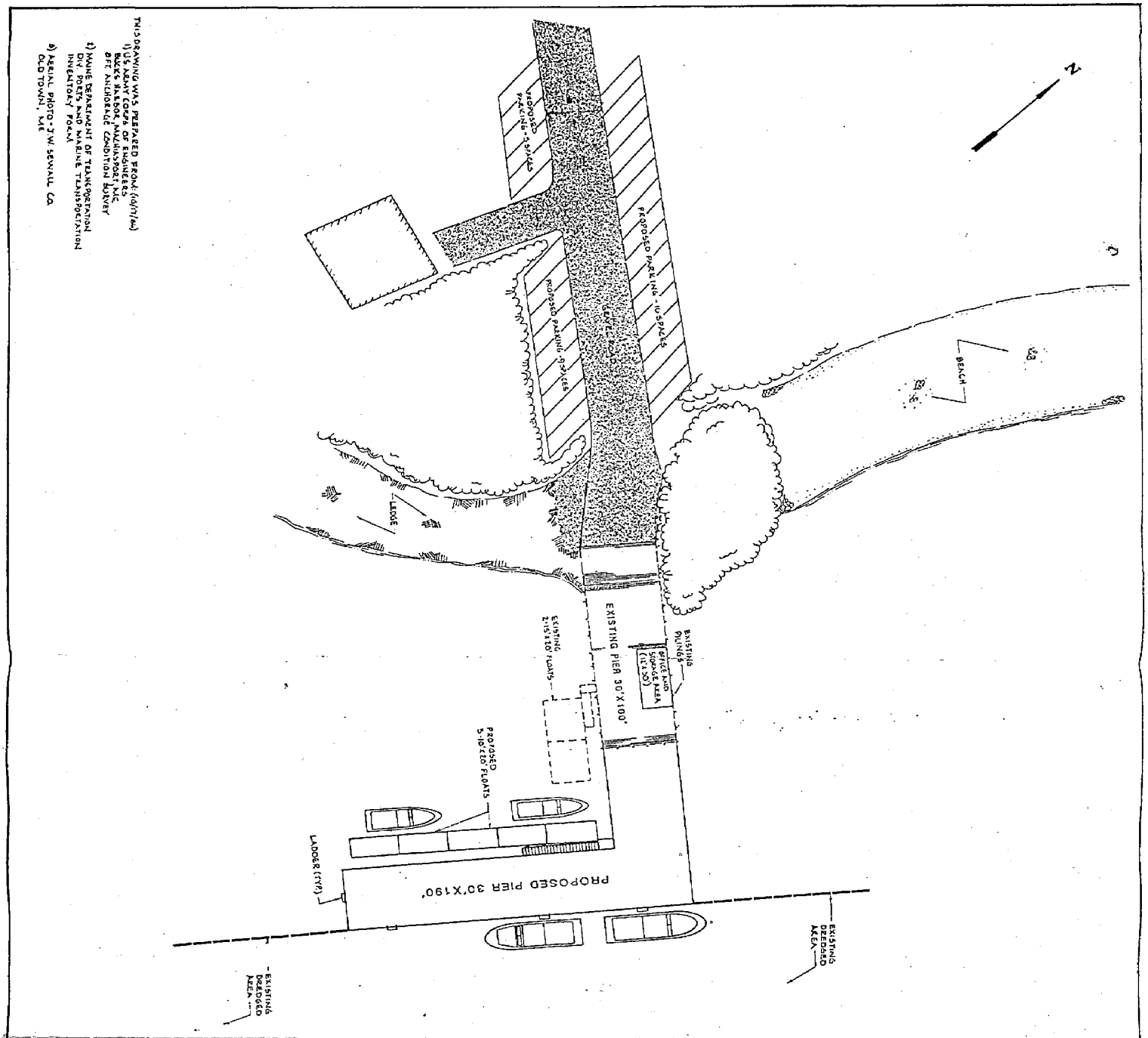
If you have checked YES you must contact the Bureau of Public Lands to negotiate a lease to use the public lands involved. Action will not be taken on your proposal by this Department until we receive a copy of the signed lease from the Bureau of Public Lands. They can be contacted at:

Bureau of Public Lands
Dept. of Conservation, Station 22
State House
Augusta, ME. 04333

Tel. 289-3061

NOTE: A bulk sediment analysis of the dredged material indicating heavy metals and oil and grease may be necessary for projects involving dredging of large amounts in areas of known contamination.

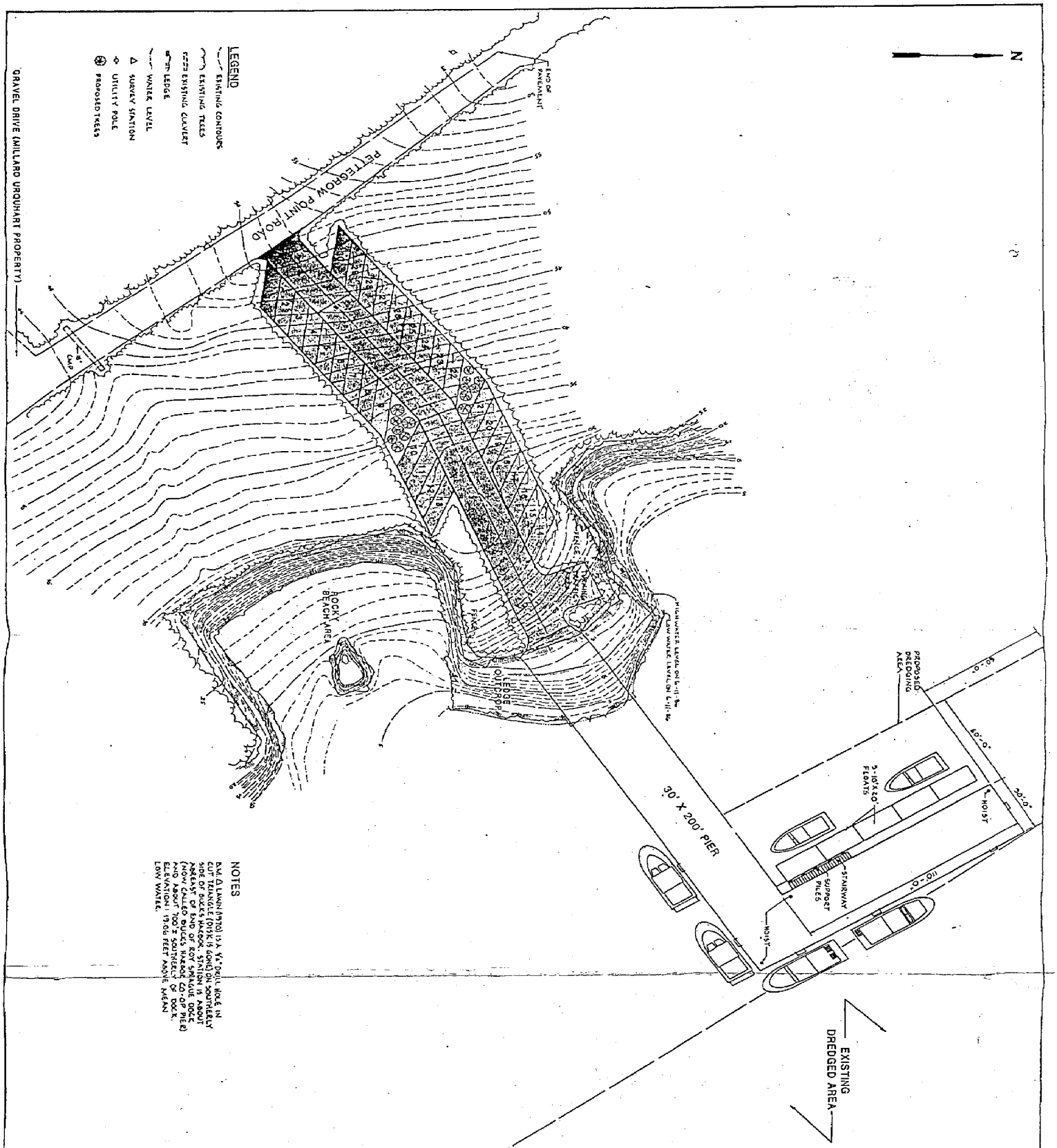
APPENDIX F



F-1

1 OF 1	SITE PLAN COOPERATION	BUCKS HARBOR STUDY MACHIASPORT, MAINE	KIMBALL CHASE company, inc.	DRAWN BY: C.JD CHECKED BY: S.C.D DATE: 10/17/06 APPROVED BY: S.C.D DATE: 10/17/06 BOOK NO: — PROJECT NO: 86-1140 SCALE:	NO	REVISIONS	APP'D

APPENDIX G



C-1	SITE PLAN ALTERNATIVE 2	BUCKS HARBOR STUDY MACHIASPORT, MAINE	KIMBALL CHASE company, inc.	DRAWN BY: CJD CHECKED BY: RLP DATE: 12/18/96 APPROVED BY: SCD DATE: 7/28/97 BOOK NO: — PROJECT NO: 95-1748 SCALE:	NO	REVISIONS	APP'D